ABSTRACT

Title of Thesis: AN EXPLORATION OF VICTIM-INITIATED INTERVENTIONS AND THE DURATION OF STALKING

Summer A. Acevedo, Master of Arts, 2006

Thesis Directed by: Professor Laura Dugan
Department of Criminology and Criminal Justice

The concept of duration has been relatively unexplored in the stalking literature. This study examines the relationship between several victim-initiated interventions and the duration of stalking. The objective was to determine which, if any, interventions used by victims against their stalkers led to a decrease in the length of time they were stalked. Continuous survival analysis was used on a voluntary sample of victims that reported duration of their stalking in monthly intervals. Only a single intervention was associated with a significant reduction in the length of stalking cases. Duration was then recoded into years and compared to data from a national, random sample to determine if similar results occurred in a more generalizable sample. Discrete survival analysis produced inconsistent results between the two samples. These findings demonstrate the need for an updated national survey of stalking victims, as well as caution researchers against relying on small, geographically unique samples.

An Exploration of Victim-Initiated Interventions and the Duration of Stalking

by
Summer Anne Acevedo

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Advisory Committee:
Professor Laura Dugan, Chair
Professor Doris MacKenzie
Professor Hanno Petras

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Chapter 1: Introduction

There are few crimes that can be thought of as ongoing events rather than discrete incidents. Crimes such as domestic violence, sexual abuse, and stalking all have the potential to last substantial periods of time. Specifically, the crime of stalking can last from days to years, inflicting a considerable amount of fear, physical pain, and mental anguish upon a victim (Brewster, 2002). Thus, any efforts that can bring an end to a victim's stalking experience will improve his or her quality of life tremendously. This research will focus on an important yet often overlooked topic in the stalking literature: the length of a stalking case. By exploring this concept, we achieve a greater understanding about the crime and the factors that influence its variation in length.

Stalking research is just beginning to move beyond the preliminary stage. Lack of a consistent operational definition coupled with inadequate statistical sophistication still plagues the field today (O'Connor and Rosenfeld, 2004). Unfortunately for victims, little advice is available on what interventions effectively discourage stalking. Policy recommendations appear to be based primarily on common sense rather than solid, empirical research. While risk assessment has been attempted, the "risks" estimated are for being stalked or experiencing violence while stalked (Rosenfeld, 2004). There is almost no information available to victims about the dangers of persistent stalking, or what they can do to end stalking once it is initiated.

Purpose of This Research

The purpose of this research is to develop and understand the concept of duration in stalking cases. This work seeks to examine an important facet of the crime that has the potential to greatly reduce the harm to and burden on stalking victims. While much

attention has focused on defining stalking (Kinkade, Burns, and Fuentes, 2005), estimating prevalence (Tjaden and Thoennes, 1998; Budd and Mattinson, 2000; Purcell, Pathé and Mullen, 2002), exploring correlates of violence (Brewster, 2000; Rosenfeld and Harmon, 2002; Rosenfeld, 2004; Roberts, 2005), or examining the impact on victims (Hall, 1998; Brewster, 2002; Mechanic, 2003; Basile, et al., 2004), a very important aspect of the crime has been virtually ignored in previous research. Duration, specifically the factors that may contribute to the length of a stalking case, has not been adequately explored by the stalking literature to date.

This research will examine the effects of personal and criminal justice interventions on the length of a stalking case. Personal interventions are unofficial responses to stalking by a victim, such as moving or changing a phone number. Criminal justice interventions involve bringing the stalking situation to the attention of authorities by taking measures such as calling the police or filing for a restraining order against the stalker. Both personal and criminal justice interventions will be studied in order to determine the potential effects of each on stalking duration.

In addition to reducing the prolonged stress and potential danger to victims, the goals and importance of conducting research on this topic include threat management implications for law enforcement, increased victim knowledge and awareness, and the possibility of new recommendations for anti-stalking laws and policies. While these represent long-term and ultimate goals, the more short term goal of this thesis is to explore the concept of duration and better understand what drives it. The results obtained here may be used to open a dialogue in the field about this important but neglected topic.

Currently, citing the average length of a stalking case is usually the most detail a reader is given. Average duration for stalking was estimated in a US national survey to be 1.8 years overall (Tjaden and Thoennes, 1998). According to the 1998 British Crime Survey (Budd and Mattinson, 2000), 19% of stalking cases were reported to last over 1 year, while an Australian sample showed an average duration of 7.8 months (Purcell, Pathe´, and Mullen, 2001). It would seem that as one explores various stalking incidents, a year or more would seem an intolerable amount of time to experience such events.

Factors that could explain the aforementioned gap in empirical knowledge include the act of prioritizing some research questions over others or lack of appropriate tools (i.e. statistical knowledge). The circumstances that lead a stalking case to last a long period of time are still unknown, as well as exactly how close events have to occur to link them together under one episode of stalking. In order to answer these questions, a consensus must be reached about how to properly measure duration in stalking cases and how to differentiate it from recidivism. An equally pressing task is to develop appropriate analytic strategies to answer these questions. The purpose of this research is not to resolve every problem presented above. The goal here is to, at the very least, provide a preliminary exploration of duration and make recommendations for future research on the topic.

Chapter 2: Literature Review

The act of stalking did not exist as a crime over a decade ago. Stalkers were frequently charged with other offenses such as trespassing or harassment that were treated as isolated incidents. With the passage of the National Violence Against Women Act in 1994, stalking was finally recognized as a potentially serious long-term crime and given due attention by our criminal justice system. Further evidence of this recognition is illustrated by the passage of laws defining stalking as a chargeable offense in every state (Tjaden and Thoennes, 1998).

Stalking can have a wide range of consequences for the victim. These consequences can vary from victims reporting they lost sleep (Brewster, 2002), to much more serious outcomes. A study by McFarlane, Campbell, and Wilt (1999) found that in cases where women were killed by an ex-partner, 76% had been stalked in the 12 months prior to the murder. When examining this extreme end of the spectrum of behavior in stalking cases, we can begin to appreciate the importance of studying and understanding the crime.

The following literature review focuses on the main themes in stalking research; what we know about the crime, characteristics of victims and offenders, and the effects of stalking on the victim. Finally, I focus on what we can do to diminish some of these harmful effects. In short, I explore the effectiveness of measures taken by victims to curtail the duration of stalking.

Definition

One of the most important considerations when studying the crime of stalking is the operational definition; the meaning of each standard used or which acts can be

considered stalking. Each state has a slightly different perspective on the elements necessary to charge an individual with stalking (Philips, et al., 2004). Consequently, researchers that use offender populations are dependent on individual state statutes for the composition of their samples.

A federal stalking statute was passed in 2000, but there is very little information on how it is to be applied. The statute makes it a federal offense to travel across state, tribal or international lines to stalk another person, and is punishable by five years to life in prison. The definition states, "the defendant must have the intent to kill, injure, harass, or intimidate the victim, or to place the victim, a family member, or a spouse or intimate partner of the victim, in fear of death or serious bodily injury" (18 U.S.C. §2261A Interstate Stalking, 1996). The Federal Statute has a more serious standard of fear requirement compared to most state statutes.

The lack of consistency in state and federal laws translates to a similar incongruence in the definition of stalking between studies. Those that question victims about their stalking experiences frequently use similar language, but have different requirements of length. One study asked about "unwanted pursuit behaviors" counted one by one, which provided no information on duration (Langhinrichsen, et al., 2000), while another required at least 10 "episodes of harassment" for more than one month before those events were deemed stalking (Sheridan and Davies, 2001). This lack of a reliable definition of the crime is perhaps one of the most difficult obstacles for the field to overcome.

Prevalence

Prevalence rates for stalking attempt to quantify the pervasiveness of the problem. They are important because they can give officials information on just how many people are affected by stalking each year, or the number of citizens expected to experience stalking over a lifetime. Yet, because researchers rely heavily on convenience samples, few studies are able to calculate prevalence rates. For those that do, it is important to include the operational definition, as different standards can create very different estimates. Table 1 presents a snapshot of the major stalking studies and their similarities and differences.

The most frequently cited work for estimates of prevalence is the NVAWS (National Violence Against Women Survey), a national, exploratory study of stalking and violence against women. The NVAWS is the most comprehensive report on stalking victims to date. Through a randomized telephone survey of 8,000 women and 8,005 men, researchers were able to gather a large amount of information about victims and their reactions to the newfound crime of stalking (Tjaden and Thoennes, 1998). Despite its strengths, one shortcoming is that it has not yet been replicated. The same statistics are repeatedly used to document prevalence rates without good measures of reliability in place.

According to the survey, the definition of stalking is "a course of conduct directed at a specific person that involves repeated visual or physical proximity; nonconsensual communication; verbal, written, or implied threats; or a combination thereof that would cause fear in a reasonable person" (Tjaden and Thoennes, 1998:2). This definition is based on the model anti-stalking statute provided by the Department of

Table 1: Definition and Prevalence of Stalking in Studies Using National, Random Samples

Study	Sample	Definition Used	Stalking Characteristics
Tjaden and Thoennes (1998) *National Violence Against Women Survey*	8,000 US women and 8,005 US men	"Course of conduct… that involved repeated visual or physical proximity; nonconsensual communication… that would cause fear in a reasonable person."	Lifetime prevalence: 1:12 women 1:8 men Avg duration: 1.8 years
Fisher, Cullen, and Turner (2002) *Sexual Victimization of College Women*	4,4446 US female college students	"… repeatedly followed you, watched you, phoned, written, e-mailed or communicated in other ways that seemed obsessive and made you afraid or concerned for your safety."	Lifetime prevalence: 1:6 women Avg Duration: 2 months
Budd and Mattinson (2000) *British Crime Survey*	9,988 British women and men 16-59 years old	"Persistent and unwanted attention at some point in (respondent's) life"	Lifetime prevalence: 1:6 women 1:15 men Avg duration: 19% lasted 1 year or more
Purcell, Pathé, and Mullen (2002) *Community Study of Harassment*	3,700 Australian women and men	Did not use the term "stalking." Asked victims about frequency of being followed, receiving unwanted telephone calls or written correspondence, being sent offensive materials, having property disturbed, etc.	Lifetime prevalence: 1:3 women 1:7 men Avg duration: 7.8 months

Justice (NIJ, 1993). The most significant findings include a calculated lifetime prevalence of stalking as 1:12 women (8%) and 1:45 men (2%) The annual prevalence rate was 1% for women and .4% for men. When the authors edited the criteria for level of fear in their definition to include feeling "somewhat frightened" or "a little frightened", lifetime prevalence rates increased to 12% for women and 4% for men (Tjaden and Thoennes, 1998). This finding is particularly relevant to lawmakers because it illustrates how victimization rates can vary with different definitions of the crime.

A second point of reference is provided by Fisher, Cullen, and Turner (2002). Their sample was drawn using a telephone survey of randomly selected female college students in 1996. The formal definition of stalking used in the survey was when someone "repeatedly followed you, watched you, phoned, written, e-mailed, or communicated with you in other ways that seemed obsessive and made you afraid or concerned for your safety" (Fisher, Cullen, and Turner, 2002:27). Overall, 13.1% of students reported being stalked during the school year. Additionally, 4 out of 5 women knew their stalker; either as a current or ex-boyfriend, co-worker, acquaintance, friend, or classmate. When comparing this prevalence rate to the NVAWS, the researchers state that their rate may be elevated due to factors such as a less restrictive definition of stalking, a sample consisting of only young women (who have a higher prevalence themselves), and the routine activities of college students that may put them more at risk.

A third and final perspective on prevalence can be gained from studies conducted in other nations. Stalking characteristics and events remain relatively stable across cultures. Data collected in England and Wales for the 1998 British Crime Survey show overall that the prevalence estimates for women over the previous year were 1:6 (16%)

and for men 1:15 (7%). The basic definition of stalking given by the survey was "persistent and unwanted attention" at some point in the respondent's life (Budd and Mattinson, 2000:v). This highly inclusive definition could help explain why overall prevalence rates are over twice as high as in the United States.

Another survey of a representative sample in Australia examined by Purcell, Pathe´, and Mullen (2002) contained a behavioral definition of harassment which avoided using the term "stalking." Being followed, receiving unwanted telephone calls or written correspondence, being sent offensive materials, and having property disturbed were all listed as stalking behaviors. For each affirmative response, respondents were asked to indicate the frequency that it occurred (once, twice, 3 – 9 times, 10 or more times). The lifetime prevalence rate for females when using a legal standard of stalking was 32.4%. This legal standard consisted of 2 or more unwanted intrusions that caused fear. When using a more stringent standard of 10 or more incidents persisting over one month, the rate dropped to 14.9% (1:7).

Although prevalence rates appear to be fairly similar, there is still substantial variation created by the definition of stalking used. Most researchers will agree on the types of behaviors that should be considered stalking, but the point at which most definitions diverge is the number of events or the time period measured. The experiences of a victim who endured three stalking events for only one week and a victim that experienced three stalking events each week for nine months are likely dissimilar. There may be serious differences in stalking situations that can be explored only after sorting them by duration.

Victim Characteristics

Females were victims in 78% of stalking cases reported in the US (Tjaden and Thoennes, 1998). Other studies reported rates that ranged from 73%-75% (Budd and Mattinson, 2000; Purcell, Pathe´, and Mullen, 2002; Spitzberg and Cupach, 2003). According to the NVAWS, 52% of victims were 18-29 years old (Tjaden and Thoennes, 1998). Comparatively, almost 30% of victims in England and Wales were 16-29 years old (Budd and Mattinson, 2000) and 43% of Australian female victims were 16-30 years of age (Purcell, Pathe´, and Mullen, 2002).

Little is reported in even the national studies about the role of other demographic variables, such as education, income, or social status in stalking victimization. The information that is reported often offers conflicting information. Findings from the BCS show that students and unemployed women are more likely to be stalked than their employed or retired counterparts. Further, women with low-incomes that lived in urban areas were more likely to report stalking victimization, while educated women were slightly less likely (Budd and Mattinson, 2000). It is possible these findings simply mediate the effects of age reported previously. Conversely, the majority of victims in Australia were employed (76%) and "currently partnered" (58%) (Purcell, Pathe´, and Mullen, 2002). Respondents in the NVAWS were asked about their income and education, but these results were not reported overall (Tjaden and Thoennes, 1998).

The NVAWS shows mixed results for the distribution of race among stalking victims. There is no significant difference in stalking prevalence between white and minority women. However, when examining prevalence rates across all races, American Indian/Alaska Native women report significantly more stalking victimization than white,

African American, Asian/Pacific Islander, or mixed race women. Conversely, Asian/Pacific Islander women were significantly less likely to report stalking victimization, though the authors attribute this to the possibility of underreporting (Tjaden and Thoennes, 1998). The results regarding race are mirrored in the Fisher, Cullen, and Turner (2002) survey of college women.

One of the most interesting findings in stalking research addresses the nature of the prior relationship between victim and offender. Women are much more likely to be stalked by their ex-boyfriend or former co-worker than a stranger. The most common category reported during the NVAWS was "previous romantic relationship." Overall, 59% of female victims reported being stalked by an intimate partner (Tjaden and Thoennes, 1998). In England and Wales, 29% of stalkers were known to their victims (Budd and Mattinson, 2000), while 57% of the Australian sample had some prior relationship with their stalker (Purcell, Pathe´, and Mullen, 2002). This result is replicated again and again in the literature, although media accounts of stalking still focus heavily on cases between strangers or mere acquaintances (Kropp et al., 2002; Mullen, Pathe and Purcell, 2000; Rosenfeld, 2003; Sheridan and Davies, 2001; Brewster, 2000; Spitzberg and Cupach, 2003).

Other studies have attempted to construct a more comprehensive victim profile. However, these results should be examined with caution for two reasons. First, and most importantly, sample size and limited selection criteria may produce results that are not generalizable. Second, these results may also lead to impractical policy implications. For example, Fisher, Cullen, and Turner (2002) found several victim attributes that increased the likelihood of being stalked for college women. They included living alone, being

from an affluent family, being in a new dating relationship, and a propensity to be in places with alcohol. With the exception of living alone, this finding might describe many college women, thus making it difficult to target a specific group for prevention.

It should be noted that the preceding variables are all associated with the incidence of stalking; there is no information on the factors associated with a lengthened experience. The sample used for the current study allows some of the most important correlates of stalking victimization to be controlled. Only female victims reporting the stalking behaviors of male stalkers that were previous intimate partners will be analyzed. While these women are not representative of all stalking victims, examining their experiences will still offer significant insight into the most common form of stalking.

Offender Characteristics

Similar to other violent crimes, the most common offender trait is male; 87% of all stalkers identified by the victims on the NVAWS were male (Tjaden and Thoennes, 1998). Other studies find similar high percentages of male stalkers (Budd and Mattinson, 2000; Purcell, Pathe´, and Mullen, 2002). Interestingly, the Australian Women's Safety Survey (Ogilvie, 2000) only contained a pure sample of women being stalked by men; females were victims and males were perpetrators in 100% of cases.

Gathering more specific information on offender traits can be difficult because many researchers survey only the victim and ask him or her to report the characteristics of the stalker. This may be easier for some victims than others; familiarity and past relationship with the stalker may have a significant effect on the accuracy of reports. Some authors try to develop a "profile" of stalkers in their sample. For example, Mullen

et al.'s (1999) incarcerated stalkers tended to be male, middle aged, single, intelligent and resourceful, and had some sort of personality disturbance.

Studies that begin with a known offender population are disadvantaged because they are not likely to represent the general population of stalkers. Specifically, they may disproportionately include only those stalkers persistent enough to be arrested, thus excluding stalkers never caught or convicted of more or less serious crimes, such as assault, attempted murder, or trespassing.

A discussion of offender characteristics would be incomplete without mention of typologies. These classification systems attempt to categorize different types of offenders. They are discussed here due to their possible importance as predictors of duration. Different motivations may lead to different investments of time for stalking behaviors. A note of caution should be given about typologies and the risks of misunderstanding or misinterpreting offender behavior. There has been very little research that compares typologies; a single one is not recognized as dominant in the field. Not every stalker will fit neatly into a category that will describe his or her behavior, history, or motivation.

There are several authors that have contributed typologies to stalking research. Holmes (1993) offered categories of stalkers that contained sexual predators and hit men, individuals with and without a prior intimate relationship with their victim, and those obsessed with celebrities and politicians. Zona, Sharma, and Lane's (1993) work attempted to parsimoniously categorize stalkers into three categories; Simple Obsessional, Love Obsessional, and Erotomaniac. Mullen, Pathé, and Purcell (2000) outlined their categories of stalkers based primarily on motivation for the crime. They

listed them as the Rejected, the Intimacy Seekers, the Resentful, the Predatory, and the Incompetent. There are other breakdowns and categorizations of types of stalkers or stalking behaviors, each dependent upon the opinions and focus of the researchers.

Regardless of labels, the major organizing principles typologies are built upon generally include motive, the nature of the prior relationship between victim and offender, and possible psychoses of the offender. While typologies have intuitive appeal, they are not a major driving force in stalking research today. They tend to focus only on the actions of the offender, failing to take into account victim actions and reactions to the situation. If reliable predictors of duration are established, victims will be armed with the knowledge of when and how to fight back, regardless of a nuanced characteristic of their stalker. Now that a basic description of stalking has been laid out, I will turn to discussing its effect on its victims and which actions may reduce its harmful effects.

Effects of Stalking on the Victim

Victims of stalking can experience a myriad of unpleasant circumstances. These experiences can take a great physical, mental, emotional, and economic toll. The purpose of the following discussion is to give the reader a multi-dimensional look at stalking victimization and again highlight the importance and benefits of shortening duration.

Physical effects

Estimates on the prevalence of violence in stalking cases range from 30-50% (Rosenfeld, 2004). The NVAWS indicated that 45% of female victims were overtly threatened by their stalker. Women stalked by prior intimates also reported being physically (81%) and sexually (31%) assaulted by that partner (Tjaden and Thoennes, 1998). One problem in examining violence in stalking cases is the inconsistent

operationalization of the term. Like the definition of stalking itself, many studies leave the victim with the task of deciding the definition of the term in question (Sheridan and Davies, 2001). One study overcame this limitation by asking about very specific behaviors, such as punching or slapping, as well as counts of incidents (Brewster, 2000).

Violence has been associated with a prior intimate relationship between the victim and offender in multiple cases (Palarea, et al., 1999; Sheridan and Davies, 2001; Rosenfeld and Harmon, 2002; Rosenfeld, 2004). The presence of prior threats has also been a consistent predictor (Brewster, 2000; Rosenfeld and Harmon, 2002; Roberts, 2005). Somewhat surprisingly, demographics such as offender age and gender have not been demonstrated to be associated with stalking violence (Sheridan and Davies, 2001; Roberts, 2005; Rosenfeld and Harmon, 2002).

Rosenfeld (2004) summarizes the variables related to violence in the literature to date. Through meta-analysis, he examined the results of 13 studies and found the rate of violence was 38.7% overall. Significant correlates identified were prior threats, substance abuse by the stalker, and the lack of a diagnosed psychotic disorder (meaning those with a disorder were less likely to commit violence). Strong, but not significant correlates listed were a prior intimate relationship between the stalker and the victim, and a history of violent behavior for the stalker. There was no strong evidence supporting the influence of demographic variables or personality characteristics, though this may be due in part to few studies including measures of these variables in their analyses.

The most serious act of violence in a stalking case is murder. Estimates of the percentage of stalkers that kill their victims are confined to only a few empirical studies. Moracco, Runyan, and Butts (1998) estimate that 24% of victims murdered by a former

partner were also stalked prior to the murder. According to McFarlane et al. (1999) 76% of femicide victims were also victims of stalking. McFarlane, Campbell, and Watson (2002) combined femicide and attempted femicide victims and found that 68% had experienced stalking in the previous 12 months.

Of course, estimates about the percentage of murder victims that were stalked do not give us the number or percentage of stalking victims that are murdered. Rosenfeld's (2004) meta-analysis on violence does not mention the circumstance, most likely due to the sampling strategies used by many of the studies. For the same reason that homicide is not asked about on the National Crime Victimization Survey (NCVS), studies of stalking violence cannot ask their subjects if they have been killed by their stalker. This is why the NVAWS is also unable to comment on the occurrence. Further complicating any estimates of stalking related murder are questions about duration. There is not complete consensus on considering events stalking if an offender follows his or her prey only during the hours before committing murder. The gravity of violence in stalking cases is clear. Unfortunately, what is not clear is the relationship between violence and duration.

Psychological effects

The experience of being stalked is not one any victim will easily forget. The term "psychological terrorism" has been used to describe stalking victimization (Hall, 1998). According to the NVAWS (Tjaden and Thoennes, 1998), 30% of all victims seek counseling, 26% lose time from work, and 56% take self-protective measures, such as moving or getting a gun. According to Hall (1998) 83% of victims reported a change in their personality after being stalked. Brewster (2003) found that 98.9% of her sample reported being psychologically controlled by their stalker. Doreen Orion (1998)

published a book chronicling her stalking experiences. It offers a candid look at stalking through the eyes of the victim and allows the reader to experience her frustration, fear, and disbelief over her circumstances. Perhaps what is most poignant is that Dr. Orion is a psychiatrist stalked by a patient, and thus is likely better prepared than most victims to deal with the effects of stalking.

While the effects mentioned previously are all highly undesirable, there are also much more serious psychological consequences victims can experience. The experience of Post-Traumatic Stress Disorder (PTSD) has been documented in several research studies on stalking (Westrup, et al., 1999; Mechanic et al., 2000; Kamphius and Emmelkamp, 2001). Depression and substance abuse are also possible consequences of stalking victimization (Mechanic, 2003). Most disturbingly, Pathe and Mullen (1997) found that almost 25% of victims reported suicidal thoughts after being stalked. It is unknown if and how persistent stalking affects any of these symptoms.

Economic costs

There are very few estimates of the costs of stalking to both victims and society. Several studies report the percentage of victims that miss time from work or attend counseling, but there is little effort to systematically capture and quantify economic cost data. A report by the CDC (2003) used data gathered by the NVAWS to provide descriptive information about the costs of stalking. 43% of stalking victims sought mental health services (ex. counseling) and averaged 9.6 visits each. At an average cost of $71.87 per visit, private insurance pays only 35% of the over $150,000,000 for the 2.1 million visits each year. Victims' mean earnings were reported as $93 per day for paid work and $24 per day for household chores. 35% of stalking victims reported lost time

from work, with estimates of 10 days missed of paid work and 12 days lost for household chores. That adds up to an estimated 2.9 million days of productivity lost each year. Stalking victims make up 5.9% of the total percentage of costs calculated for intimate partner violence against women in 1995.

Without any other comprehensive estimates of the economic costs of stalking, the topic is obviously ripe for future research. In fact, the Bureau of Justice Statistics has decided to add a supplement to the National Crime Victimization Survey. The extra component will be called the Supplemental Victimization Survey (SVS) and will include questions about the impact of stalking on victims and its financial costs. Data collection will begin in January 2006, with results expected approximately a year later (DOJ, 2006). Although we know very little about the economic costs of staking, common sense tells us that the longer a stalking case continues, the greater the potential for victims to experience further psychological, emotional, physical, and financial harm.

Disruption of routine activities

The extent that routine activities influence the probability of being stalked and that stalking leads to a change in routine activities is unknown. A major hurdle in exploring both research questions is the lack of longitudinal data from stalking victims. Questions regarding a victim's lifestyle are always retrospective or cross-sectional in nature, thus making accurate temporal estimates difficult or impossible to obtain.

There is one study in the stalking literature that attempts to examine the relationship between routine activities and stalking. Mustaine and Tewksbury (1999) found that shopping at the mall, living off campus, being employed, and using drugs or alcohol were all associated with a heightened probability of being stalked for their sample

of University women. Some of these variables are consistent with a routine activities approach. For example, students employed are more likely to spend time away from home (increasing interaction with motivated offenders), and those that live off campus may be less protected than their on-campus counterparts (absence of capable guardians). Other variables do not have very useful policy implications; female college students are highly unlikely to discontinue shopping at the mall or consuming alcohol for fear of being stalked. More valuable results could be obtained if the authors had included a temporal component in their survey. If asked about routine activities before and after a stalking episode took place, the change over time could have been examined. Stronger conclusions could be drawn about activities associated with being stalked before the stalking occurred and how they changed afterwards. As presented, it is impossible to determine if shopping at the mall leads to an increased probability of being victimized, or if victims are just shopping to avoid school or home (where they may be contacted by their stalker).

Reducing the harmful effects of stalking

Official recommendations

Advice to stalking victims is most often in the form of common sense recommendations for safety given by anti-stalking organizations. The National Center for Victims of Crime (NCVC, 2006) has a Stalking Resource Center that lists several preventive measures for victims. They include getting an unlisted phone number, installing secure doors and locks, varying travel routes, and limiting solitary travel. There are also several books written by advocates or former victims that combine anecdotal

stories, safety tips, and basic information about the legal system to provide recommendations to victims (Bates, 2001).

Dugan and Apel (2005) identify a needed amendment to policies based on routine activities theory. They argue that prior research and current policy are based on the assumption that the offender is using an opportunistic targeting strategy. In cases of domestic violence and other similar crimes (perhaps stalking), the offender is not opportunistic; his choice of target is highly deliberate. Therefore, some policy recommendations based on the theory may have detrimental effects. For example, domestic stalking victims may experience retaliatory violence as a result of help-seeking behaviors.

There is far too little information available that is based on sound research from reliable sources. The authors of the NVAWS seem to agree. The policy implications section of the report states that, "More research must be conducted on the effectiveness of formal and informal law enforcement interventions" (Tjaden and Thoennes, 1998:14). This research seeks to directly address these policy issues.

Risk Assessment

The subject of risk assessment is an emerging hot topic in stalking research. An instrument that could quantify risk or susceptibility to stalking is undeniably alluring. However, there is very little research to date on the development of risk assessment instruments that specifically target the chances of being stalked. There is also modest information on the development of risk assessment regarding offender violence in stalking cases (Rosenfeld and Lewis, 2005).

Risk assessment is a difficult task to undertake, and when a diverse group such as stalkers is added to the proposal this difficulty is undoubtedly complicated. According to Kropp, Hart, and Lyon (2002), one of the reasons risk assessment remains such a difficult task for stalking researchers is the lack of information about duration in many samples. Cross-sectional studies only ask victims about their current circumstances. No follow-up interviews are conducted and analyses frequently treat victims still being stalked and those who are no longer being stalked as the same. The authors recommend a structured professional judgment approach to risk management, mainly due to significant gaps in the literature regarding risk factors and interventions. This research hopes to address some of those gaps by exploring the relationship between victim-initiated interventions and duration.

Recidivism

The concepts of recidivism and duration are closely intertwined. In fact, very few studies distinguish one or both terms clearly. Rosenfeld (2003) followed a clinical sample of stalkers for 2½-13 years gathering data in an attempt to differentiate high and low-risk offenders. Recidivism was measured with official records (arrests) and interviews with probation officers and victims. Forty-nine percent of the sample recidivated, but more importantly, 80% of recidivists re-offended during the first year after their court referral to the clinic. The strength of this study is in the research design; both survival analysis and non-parametric models were used to analyze a multi-dimensional dependant variable. Factors associated with recidivism were stalker age, prior intimate relationship with the victim, and personality disorder diagnosis.

Unfortunately, this work does not clearly distinguish recidivism from duration. Because offenders were identified based on an initial charge, the author argues that the likelihood of detection for future stalking behavior is high (victims were also interviewed to determine if the offender had recidivated). Again, unanswered questions remain, such as the length of time necessary to consider stalkers to have desisted, and whether continuing to stalk an ex-wife a week after being arrested and jailed should be considered recidivism, or merely a continuation of previous behavior. Perhaps these questions can only be answered with a prospective longitudinal design. Until then, it appears that recidivism in stalking cases is almost inextricably linked to duration.

Decreasing Duration

The goals of any current research on stalking should include fostering a greater understanding of the phenomenon among researchers in the field. Assistance to victims should also weigh heavily on any researcher's mind. We do not yet know enough about stalking to state for certain what the best courses of action are for victims. Each case is different and should be evaluated as so. However, some victims are fighting back, and therefore should be aware of what consequences their actions may have. After reviewing the many effects of stalking on victims, it should be evident that attempting to reduce the time spent dealing with these effects can only benefit victims.

There have been very few studies that have incorporated the concept of duration into their analysis. Mullen, et al. (1999) calculated average rates of duration and listed them by stalker type. Duration was significantly different between their 5 typologies. Rejected stalkers and intimacy seekers appeared to have longer durations of stalking, though that finding did not reach statistical significance. These results may present a

challenge for replication due to their reliance on typologies that are not consistent between studies. However, credit should be given for exploring one way in which duration may vary among stalking cases.

Purcell, Pathe´, and Mullen (2004) provided the first study that confronted the ambiguous concept of duration in stalking cases head on. They determined that 2 weeks is the "watershed" point in stalking cases that differentiates "brief outbursts of intrusiveness" from "persistent" stalking. They conclude that although stalking behaviors that last a few days or a week can be annoying and disruptive to a victim, there is a greater chance of psychological harm once the behaviors breach the two week time period. There has not yet been a significant response to this finding in the stalking literature. Perhaps with more time other researchers will begin to break away from a unidimensional view of stalking and embrace one that can vary temporally.

Options for Recourse

Stalking victims may be unaware of available options if they decide to resist their stalker. There are several formal and informal interventions at the disposal of victims, yet we know very little about their effects. As mentioned previously, recommendations given to victims are derived more from common sense than empirical research. Despite this, there are a few studies that have asked victims what preventive or reactive actions they took and the effects of those actions on their stalking situation.

According to the NVAWS, 28% of female stalking victims reported obtaining a protective order against their stalker, but 69% of them also reported that order was violated (Tjaden and Thoennes, 1998). Methods of discouragement used by victims included changing their address and avoidance behaviors. Brewster (2000) reported that

only 9% victims who discouraged their stalker in some way reported a positive behavioral change as a result. While victim perceptions of the effectiveness of interventions are highly important, it is possible that different results may be obtained when looking at a less biased source, such as the actual duration of the stalking.

Further complicating matters, a recent study by Tark and Kleck (2004) found that resistance by victims was *not* associated with a higher probability of harm. While stalking was not one of the personal crimes measured, the findings did cautiously encourage victims of sexual assault to fight back instead of offering no resistance as previously recommended by other research. The authors point out that previous work focuses on reminding victims about those that fought back and were subsequently injured or killed, while ignoring many cases where victims fought back and survived because they did.

With new research emerging so frequently on victim responses to crime, any recommendations made today run the risk of empirical invalidation tomorrow. Despite this, a concerted effort must be made to advance knowledge about what measures have successful or detrimental effects here and now. This research will attempt to further the progress of the field in empirically validating prevention or intervention strategies so that we may give victims better advice than simply changing locks or getting a guard dog.

Theoretical Perspective

The nature of this research is exploratory, therefore there is not an extensive discussion regarding theories of stalking. Most theories in the stalking literature focus on explaining incidence or violence rather than the continuation of stalking (Mustaine and Tewksbury, 1999; Rosenfeld, 2004). In fact, there is no "duration theory" present in the stalking literature. The lack of information about duration makes it difficult to apply

theories about motivation to explain why stalking continues, though it is possible that more motivated offenders would stalk their victims longer or more persistently.

Routine Activities theory (Cohen and Felson, 1979) posits that three elements interact to produce predatory crime. Motivated offenders, suitable targets, and the absence of capable guardians all combine in time and place to make crime more likely. When applying Routine Activities theory to stalking situations, one main assumption of the theory cannot be validated in all cases. It is assumed that there is a constant supply of motivated offenders, with the focus on situational, rather than offender characteristics. Although stalking could be perpetrated by strangers in a context consistent with this theory, former-partner stalking cannot be adequately explained.

Another theory used to explain stalking behavior involves power and control dynamics. Brewster (2003) found that 75% of victims in her sample experienced some form of controlling behavior prior to being stalked. This controlling behavior was financial, social, psychological, physical or sexual. It is possible that stalkers with a preference for specific controlling behaviors may be more likely to pursue a victim for longer periods of time. Unfortunately, this theory was not tested by the author.

Other theories such as deterrence or rational choice are also difficult to apply to stalking, again due to the violation of an important assumption. In this instance, many researchers would not consider a stalker a rational decision maker.

Hypotheses

This research examines the effects of specific criminal justice and personal interventions on the duration of stalking experiences for women. Consequently, the hypotheses represent expectations about overall differences between criminal justice and

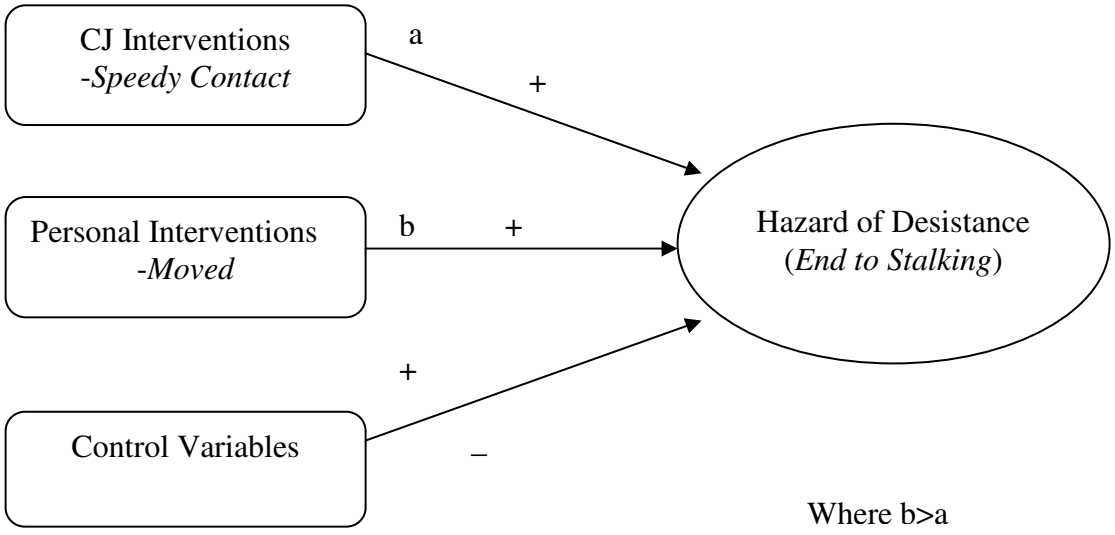
personal interventions, as well as predictions about a specific intervention from each category. The interventions examined are all assumed to have a positive effect on reducing stalking duration. Figure 1 contains a graphical representation of the hypotheses.

Hypothesis 1 : Personal interventions will be associated with a significant increase in the hazard of desistance (meaning they are more likely to reduce duration) compared to criminal justice interventions.

Hypothesis 2 : Victims that move will have a significantly greater hazard of desistance than those victims that did not move during their stalking period.

Hypothesis 3 : Cases in which the victim immediately contacted the police will have a significantly greater hazard of desistance than cases where the victim waited to contact police or did not contact them at all.

Figure 1: Hypothesized Effects of Interventions on Duration



Chapter 3: Methods

Data

The primary sample in this study uses secondary data collected from 187 female stalking victims in Southeastern Pennsylvania from 1991-1995. The original data collection was supported by a grant from the National Institute of Justice. The purpose of the study was to obtain information about stalking experiences and needs of stalking victims (Brewster, 1998). Fliers advertising the study were posted in the community at victim service and law enforcement agencies, as well as placed in local newspapers. The subjects voluntarily contacted the researchers and were then asked screening questions to determine their eligibility. In order to qualify for the study, subjects had to be "repeatedly harassed, followed, and/or threatened during the past five years by someone with whom they had had an intimate relationship" in addition to experiencing "emotional distress, fear of bodily harm, actual bodily harm, or the belief that the stalker intended to cause one or more of the above" (Brewster, 1998:5). Face-to-face interviews were then conducted with each victim, with questions focused on the prior relationship between the victim and the stalker, characteristics of the stalking, attempts by the victim to discourage the stalker, formal and informal assistance requested by the victim, physical and emotional effects of the stalking, and other victimization experiences (Brewster, 1998). The detail present in each case, the prior-intimate nature of every episode, and the monthly measure of stalking duration all contribute to the relative strength of this sample.

The final sample size was reduced to 146 due to missing data.[1] I will refer to this sample as the "Brewster Sample."

Analysis

In order to test the hypotheses regarding actions associated with shorter or longer stalking duration in the Brewster sample, Cox proportional hazard analysis will be is used (Cox, 1972). This method accounts for both censored and uncensored data, as well as temporal dependent variables, all of which are present in the primary dataset. This method is sometimes referred to as duration analysis because it tests the effects of the independent variables on the duration of a dependent variable. Specifically, the results obtained using duration analysis will highlight which interventions are associated with an increasing hazard of desistance (reduction in stalking duration) or a decreasing hazard of desistance (increase in stalking duration).

With interval time captured in monthly increments, the original Brewster data could be treated either as continuous or discrete. The decision to use continuous survival analysis was made based upon the range of the data (1-456 months). Due to a natural inclination to round periods of months to years, there are several ties present in this dataset around each 12 month mark. Ties occur when one interval period has several events of interest take place at the same time. For continuous periods that contain shorter intervals (ex. daily measures of when an event occurred) ties are usually not a concern. However, in this sample the number of ties presents a problem for the statistical program when several events appear to occur simultaneously. The presence of ties will be resolved

[1] Sixteen cases were excluded because they were missing data on the length of stalking duration. An additional 2 cases were missing education data, 9 cases were missing the level of fear measurement, 1 case was missing a value for the type of prior relationship, 3 cases were missing values for obtaining a restraining order, and 10 cases were missing values for utilizing personal interventions. A total of 41 cases were dropped due to missing data.

using the exact method (Allison, 1995), which assumes there is a real but unknown order for those event times that are tied. Although this method requires more computing time, it is also more precise than either the partial or Breslow approximations. The partial approximation can produce "bad results" if there are many ties in the data, while the Breslow method is only an approximation of the exact method (Cleves, Gould, and Gutierrez, 2004:142).

Models

In providing initial information about the Brewster sample, a logistic regression is conducted to determine which victim characteristics are associated with using dual types of interventions, meaning a victim used both criminal justice and personal interventions as a reaction to being stalked. The logistic regression model contains all of the control variables present in the primary continuous duration analysis, which will be defined later. It can be written as:

$$\Lambda^{-1}[E(dual_i)] = B_0 + \beta_1 Agestalk + \beta_2 White + \beta_3 Income + \beta_4 GradHS + \beta_5 AttendCollege + \beta_6 GradCollege + \beta_7 Serious\ Relationship + \beta_8 Violence + \beta_9 Fearful. \quad (1)$$

The model used to test the hypotheses in this study contains the criminal justice and personal interventions used by the victim against the stalker and all control variables. Three criminal justice and four personal interventions were chosen from the dataset to test. These interventions represent the most popular measures victims took in response to being stalked. Control variables include victim demographic information, specific information about the previous relationship between the victim and the stalker, and characteristics of the stalking that may have had an additional influence on duration. The continuous duration model for the Brewster sample is written as:

$$h_i(t) = \lambda_0(t) \exp(\beta_1 \text{CJ Interventions} + \beta_2 \text{Personal Interventions} + \beta_3 \text{Controls}). \quad (2)$$

Where *t* represents duration time, and Criminal Justice Interventions include police, arrest, and attempting to file or filing a restraining order. Personal Interventions include moving, changing a phone number, threatening the stalker, and using the help of friends and family. Finally, control variables are age, race, level of education, type of prior relationship with the stalker, level of fear, and the presence of violence during the stalking. These variables will be operationalized in the following section. In this case, unlike traditional survival analysis which considers death the event of interest, discontinuance of stalking ("dying") is a desired event. Victims who have a shorter duration experience a more favorable result than those who must experience stalking for longer periods of time.

Regarding the anticipated results presented in the hypotheses for this analysis, it is expected that personal interventions will be significantly related to increasing hazards of desistance more so than the criminal justice interventions. The findings for *Moved* and *Speedy Contact* should both be positive and significantly associated with an increased hazard of duration.

Description of Variables

Dependent Variable

Survival analysis uses duration, or time until the stalking desists or is censored, as the main dependent variable. This is measured in the Brewster sample by the number of months the stalking took place. Specifically, the victim was asked about her former partner: "How long were you stalked by this person?" It was left to the respondent to determine how to measure the duration of her particular case.

Victims were also asked if the staking was still continuing at the time of the interview. The dummy variable *desist* defines the risk set for each time period by differentiating cases that were still ongoing (censored cases) from those that desisted. It is coded as 1 if the stalking desisted (ended) and 0 if the stalking had not yet desisted. As a conservative measure, cases in which the victim was not sure if the stalking was still ongoing, and cases where the victim had experienced stalking behavior in the previous 12 months were all coded as still continuing. [2]

Independent Variables

The independent variables in this study are the criminal justice and personal interventions initiated by the victim as shown in equation 2. Although the interventions included represent some of the most common actions victims can take in response to stalking situations, they are by no means an exhaustive list. Also, a victim could use multiple interventions. All independent variables are dummy variables, coded one if the intervention was used by the victim, and zero if the intervention was not used.

For the criminal justice interventions, a value of zero means that the victim took no legal action against the stalker. *Contacted Police* indicates if the victim contacted the police or went to the police station to report the stalker's actions. *Stalker Arrested* indicates if the victim had her stalker arrested for stalking or another related crime. The presence of a restraining order in each case was constructed in two ways. *Restraining Order* indicates if the victim either filed or attempted to file for a temporary or permanent restraining order against the stalker.

[2] The analysis was run using different cutoffs for determining if stalking had desisted or not. The results were substantively the same regardless of whether the victim had not experienced stalking behavior for 1 month, 3 months, 6 months, or over 1 year.

For personal interventions, *Changed Phone#*, *Moved*, *Threatened Stalker, and Used Family* are all dummy variables coded one if the victim initiated them, and zero if they were not used by the victim to discourage the stalker. *Changed Phone#* and M*oved* are coded 1 if the victim changed her phone number or moved and 0 if she did not. *Threatened Stalker* is coded as one if the victim threatened to tell the police, the stalker's parents, or his job about the stalking behavior. *Used Family* is coded as one if the victim either contacted the stalker's family herself, or if the victim's family contacted the stalker on her behalf. Finally, *Speedy Contact* is a dichotomous measure indicating how quickly a victim contacted the police after her stalking began. It is coded as 1 if she reported contacting police immediately, and 0 if otherwise (never reported, waited less than 1 month, waited more than 1month, or time not specified).

Control Variables

Relevant control variables for this analysis are factors that may be jointly related to both interventions and duration. *Agestalk* represents the age of the victim in years when the stalking began. *White* is a dummy variable coded as one if a victim is white or zero if the victim is non-white. There was not enough variability in race to analyze each group separately, due to the "other" category only containing 5 women. Although reluctant to do so, the low number of black, Hispanic, and "other" victims required them to be collapsed into a single non-white group, thus only allowing comparisons to be made between the white/non-white dichotomy. *Education* is a categorical variable representing the highest level of education the victim reported attaining. It is coded as one if the victim did not complete high school, two if high school was completed, three if the victim attended some college, and 4 if the victim graduated from college, law school, or

graduate school. *Serious Relationship* is a dummy variable coded as one if the victim had a serious relationship with the stalker, such as being married, living together, or engaged, and coded as zero if the victim only dated the stalker. It is included because it is possible that victims with a more serious prior relationship could be more reluctant to use criminal justice interventions or that a stalker would stalk a victim more intensely if he thought there was a chance of reconciliation. *Violence during stalking* is also a dichotomous variable coded as 1 if the victim experienced physical violence during the course of her stalking, and 0 if no violence was reported. It is included as a gauge of seriousness, which could influence both duration and the types of interventions a victim used. *Fearful* is a dichotomous variable that is coded as 1 if the victim reported being "extremely fearful" of her stalker, and coded as 0 if otherwise.

Finally, *Income* is a continuous variable representing a victim's annual income. Unfortunately, the survey only asked victims about their current income, thus providing no information on their income at the time they were being stalked. This measure is weighted by a variable *agediff*, which represents the number of years that passed since the victim was first stalked. A value of .5 was arbitrarily chosen as a starting weight for income at the maximum *agediff* value (38 years). This means that at the time the stalking began 38 years ago, a victim is assumed to make approximately half the salary that she currently makes. A linear relationship between income and years since stalking began was assumed. Therefore, the starting weight of 0 (victim's current income is a valid

measure if stalking began less than 1 year ago) and ending weight of .5 were plotted on a line and the remaining weights for years 1-30 were fitted.[3]

Other demographic variables such as employment status, occupation, and marital status are not included as control variables because some of the victims are no longer being staked. These measures would only reflect information at the time of data collection, rather than information about the victim while the stalking was occurring.

Reliability Check

There are limitations to the Brewster sample, some of which are serious. The primary sample is voluntary, contains only female victims from Southeastern Pennsylvania, and only comes from the perspective of the victim. Since some victims may be differentially more or less likely to volunteer for the study, it is unlikely to be representative of the universe of stalking cases around the country. To address this limitation, I compare findings from the Brewster sample to those from the sub-sample of NVAWS cases. Although the dependent variable is measured more crudely in the NVAWS sample, I will only be using the data for a reliability test for selection bias that may be present in the initial analysis.

The original National Violence Against Women Survey was conducted by the National Institute of Justice and Centers for Disease Control. Its purpose was to examine the violent victimization of both women and men. It explored fear of violence, emotional abuse by adult partners, physical assault during childhood as well as adulthood, forcible rape or stalking, and threats of violence experienced as adults. Data from the NVAWS

[3] This variable is only used to describe victims in the logistic regression. It was not included in the continuous survival analysis due to missing data (17 cases were missing) and no comparable variable in the NVAWS sample.

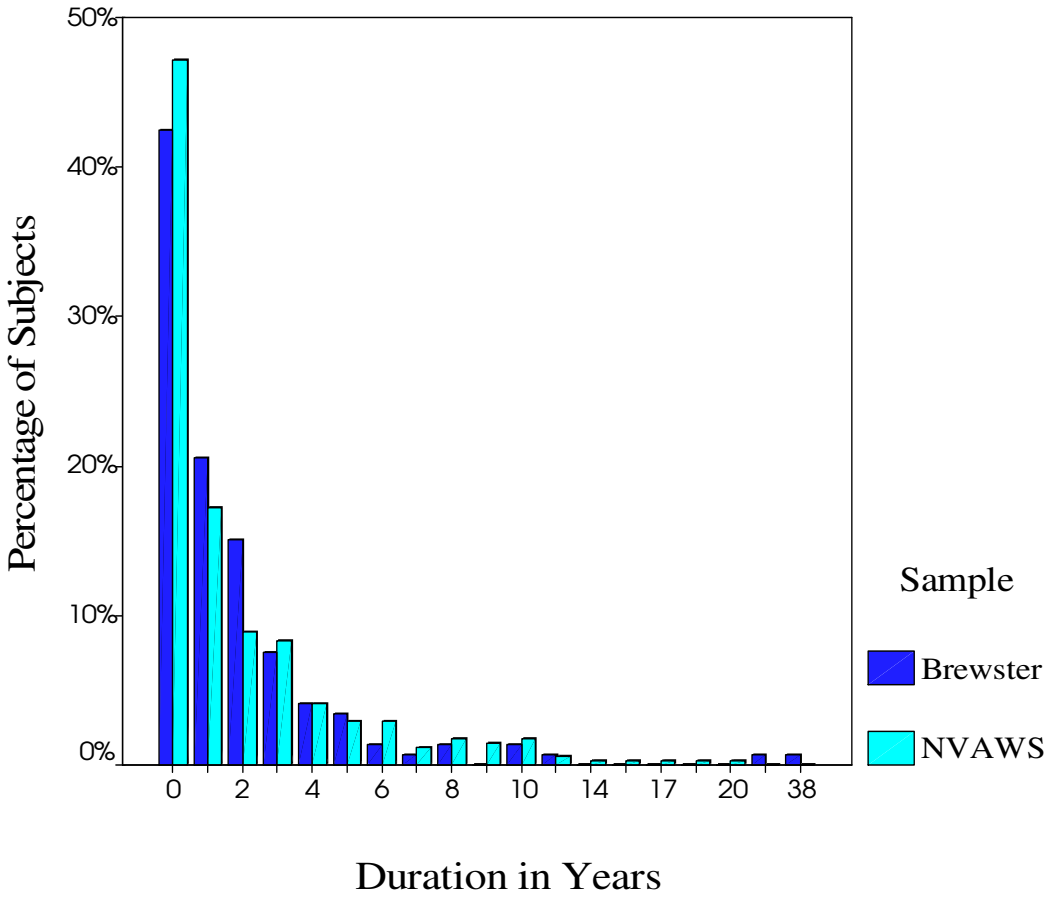
was reduced in two important ways to make it more comparable to the Brewster sample.[4] First, only women who reported being stalking were included. Victims were asked, "Has anyone, male or female, ever frightened you on more than one occasion by following you, spying on you, communicating with you against your will, or engaging in other harassing acts?" The survey only considered women as stalking victims if they reported being frightened or feared bodily harm from their stalker (Tjaden and Thoennes, 1998:17). The second criterion upon which victims were included in the final sample is based on their reported relationship with the stalker. If the victim reported that the stalker was a spouse or ex-spouse, former live in partner or boyfriend/date, then her case was included. Stalking perpetrated by strangers, family members, and various acquaintances was excluded.

After victims answered affirmatively to the initial screening question they were asked about the first time and most recent time their stalker committed any of the stalking behaviors. The dependent variable of duration was obtained by subtracting the most recent time of stalking (in years) from the first time (in years). For example, if a victim reported the first stalking behaviors 3 years ago and the most recent two years ago, her duration measure was one year. The value "in the past 12 months" was coded as 0 years to differentiate 0-12 months ago from 1 or more years ago. Consequently, if a victim reported both the first and most recent stalking behavior taking place in the past 12 months, she was assigned a value of zero.

[4] The NVAWS sample was not used for the main analysis due to its crude measure of duration (yearly), which would have introduced significant measurement error.

The final number of cases in the NVAWS sample is 337, after 41 cases were excluded due to missing data.[5] In order to compare findings from the two samples, duration of stalking in the Brewster data will be recoded into years and re-analyzed along with the NVAWS sample. Figure 2 shows a comparison of the dependent variable in years between the two samples. Overall, the distribution of duration appears very similar, with the exception of the right tail. The Brewster sample contains more outliers at the far end than the NVAWS sample.

Figure 2: Duration for Brewster and NVAWS Sample by Percentage of Cases



[5] Fourteen cases were excluded because they were missing data on the length of stalking duration. An additional 3 cases were missing values for age, 7 cases were missing data for white, 5 were missing values for contacting the police, 12 were missing data for having a restraining order. A total of 41 cases were dropped due to missing data.

The yearly measure of duration is the dependent variable in a discrete time survival analysis (Stinger and Willett, 1993). A discrete time method is used due to the censoring and crude yearly approximation of duration. For a highly important event such as stalking cession, information only about yearly intervals is not optimal. However, a discrete analysis will allow for a comparison of results between the voluntary, local Brewster sample and the national randomized NVAWS sample because both samples will be treated exactly the same. Table 2 presents a comparison of the operationalization of the independent variables between the two samples. The only independent variable that is present in the Brewster sample that was not measured in the NVAWS sample was *Violence during stalking*, which indicated if there was stalker-on-victim physical violence during the stalking period. As mentioned before, coding in yearly intervals has serious influences on the distribution of duration for this sample and this heavily influences the analytic strategy.

The discrete duration model used for the second analysis comparing the NVAWS and recoded Brewster sample can be written as:

$$\text{logit}\, h(t_j) = [\alpha_1 D_1 + \alpha_2 D_2 + \cdots + \alpha_j D_j] + [\beta_1 CJ\ Interventions + \beta_2 Personal\ Interventions + \beta_3 Controls]. \quad (3)$$

Discrete survival analysis is actually a form of logistic regression that produces output that can be interpreted using odds ratios to predict the probability that the stalking has ended during each year. The results from this model illustrate the proportion of victims that used a particular intervention and experienced desistance in their stalking compared to those that did not experience desistance. The directionality of the coefficients will indicate which interventions are associated with an increased or decreased probability of a victim no longer being stalked.

Table 2: Operationalization of Independent Variables for each sample

Independent Variable	Brewster Sample N=146	NVAWS Sample N=337
Contacted Police	Called police/went to police station	Were incidents reported to the police?
Stalker Arrested	Stalker arrested for stalking crimes	Was the perpetrator arrested or taken into custody?
Restraining Order	Victim has a restraining order/PFA (Protection From Abuse Order) or Victim attempted to get PFA but court denied, Victim had a PFA but couldn't get it renewed, Victim had a PFA but was told to withdraw it, Victim PFA expired and wasn't renewed, Victim wanted PFA and was told she couldn't get one	Did you get a restraining order as a result of the incidents?
Changed Phone#	Attempts to discourage stalker - Changed phone #/Block phone	What other measures were taken to protect yourself? - Got telephone number changed
Moved	Attempts to discourage stalker - Moved	What other measures were taken to protect yourself? - Changed addressed/moved out/left/moved to a shelter or safe house
Threatened Stalker	Attempts to discourage stalker- Threaten to call police, threaten to phone stalker's parent, threaten to get stalker in trouble at work	Did you ever follow or harass the perpetrator on more than one occasion?
Used Family	Attempts to discourage stalker- Plead with stalker's family/friends, Victim had family/friends talk with stalker	What other measures were taken to protect yourself? - Enlisted help of friends/family
Violence during stalking	Stalker-on-victim physical violence during the stalking	Not measured in the NVAWS
Speedy Contact	Victim reported stalking to police immediately	How soon… was [he] reported to the police? - Within 24 hours

Limitations and Strengths

In addition to the limitation mentioned above regarding the unlikely generalizability of the Brewster sample, there are several other limitations that raise caution when interpreting the findings. For example, there is the possibility of false reporting. No official records were analyzed to help determine the veracity of a victim's report. Although this is a legitimate concern, the occurrence of false reporting is extremely difficult to detect in stalking cases. Sheridan and Blaauw (2004) calculated a false report rate of 11.5% in their sample from the Netherlands and United Kingdom. They also found that false reporters claimed a stalking period that was significantly longer than the genuine reporters (80.9 months on average compared to 44 months for truthful victims). If false reporters are present in the Brewster sample, there is a chance that the main dependent variable in this study is overestimated.

Perhaps the most serious limitation of the Brewster data is its cross-sectional nature. Victims were only interviewed once and asked retrospectively about the events that took place during their stalking. Missing is information on the precise point in time when each intervention was initiated by the victim. To help address this, a dichotomous measure of the speed in which the police were contacted after the stalking began has been included. The purpose of this variable is to try and introduce some certainty as to when interventions took place. With the exception of contacting the police, all other independent variables could have occurred at any point during the stalking. Therefore, conclusions can only be drawn about what actions are associated

with a shorter or longer duration. Ambiguity in timing prevents any further certainty about what measures may be effective or ineffective.

Despite these limitations, there are also several advantages to using the Brewster sample to understand duration in stalking cases. The principal advantage is the measure of the dependent variable is in months, unlike the NVAWS measure that is given in yearly increments. This more precise operationalization gives a more detailed distribution of duration and allows a more sophisticated analysis. Another advantage to using this sample is that it includes cases where the victims did and did not contact the police. Unlike studies taken from official records, the victims here are likely more representative of all stalking victims, rather than just those who come to the attention of researchers only after contacting the police. A third advantage is that the researchers asked detailed information about the stalking experience, victim interventions, and the characterization of the prior relationship between the victim and stalker. Because all cases are between former intimate partners, victims are able to more accurately report characteristics of their stalker and his behavior before the stalking began.

Chapter 4: Results

The results will be presented in the following way. First, I offer a descriptive account of stalking. Information on victims, their stalkers, and the types of victims who were most likely to pursue specific interventions will be presented, which includes the logistic regression determining which types of victims were most likely to use both criminal justice and personal interventions. Next, the findings from the continuous duration analysis are presented and the hypotheses addressed. I conclude with the findings from the discrete duration analysis utilizing both samples. This final analysis will help determine how generalizable the findings from the specialized data are to a general population.

Victim and Stalker Characteristics

Table 3 presents mean values and paired-samples t-tests for victim and stalker characteristics. Several victims did not report detailed information about their stalkers, possibly because their prior relationship may have been very brief and/or they were unsure of the answers. Therefore, the comparisons made here are only for the victims who answered questions about their stalker's age, race, education, and employment respectively. For these subsets of victims overall, stalkers were significantly older, while victims were significantly more likely to be white and educated. The average weighted annual income for victims was $27,135. Data were not collected about stalker income, therefore no comparison can be made between the two groups. Although victims and stalkers have some significantly different traits, the magnitude of these differences seems trivial. The relative homogeneity between

victims and their stalkers is not surprising given that a prior intimate relationship was required to be included in the study.

Table 3: Victim and Stalker characteristics

Characteristic	N	Victims	Stalkers
Age at time of stalking ***	105	30.14	31.77
Proportion White ***	103	0.62	0.53
Level of Education **	82	2.74	2.45
Employed (currently)	104	0.67	0.70
Income (Weighted)	133	$27,135.00	n/a

** significant at the .05 level *** significant at the .01 level

Characteristics of Stalking

As mentioned previously, stalking situations are far from identical, making it difficult to describe a "typical" case. Table 4 contains information about reported stalking behaviors found within each case ranked from most to least frequent. Since victims could disclose more than one type of stalking behavior, percentages total more than 100. Only 5.5% of victims reported none of these behaviors taking place over the course of the stalking, while 17.8% reported only a single behavior occurring. Receiving phone calls (90.3%) is by far the most common stalking experience, while theft (21.6%) was the least common. If a sample of stalking victims was asked about the same behaviors today, it is likely the percentage receiving letters/cards/emails would dramatically increase compared to this 1991-1995 sample, due to current widespread internet and email availability.

Table 4: Actions taken by Stalkers

Behavior	Percentage of Cases
Phone calls	90.3%
Watching	66.3%
Letters/cards/emails	56.0%
Trespassing	45.6%
Drove/walked by house/job	44.7%
Property damage	37.7%
Gifts	36.0%
Broke into house/car/business	32.8%
Stole possessions	21.6%

Victims using interventions

Overall, 92.5% of victims in the sample used an intervention in response to their stalker, either personal or via the criminal justice system. Table 5 lists the percentage of victims that used each type of intervention. The most common interventions used were criminal justice interventions, particularly contacting the police, while the least likely intervention was threatening the stalker.

Table 5: Percentage of Victims Utilizing Specific Interventions

Intervention	Percentage of Victims
Criminal Justice	***80.8%***
Contacted Police	73.3%
Restraining Order	62.3%
Stalker Arrested	39.0%
Personal	***75.3%***
Moved	36.3%
Changed Phone Number	34.2%
Used Family and Friends	23.3%
Threatened Stalker	17.8%

Further exploring the types of victims who are more likely to use interventions, Table 6 presents logistic regression results for a model predicting the

use of dual (personal *and* criminal justice) interventions. 63.7% of the sample used both strategies. Only 7.5% of victims used no intervention against their stalker, while 11.6% and 17.1% used only personal or criminal justice interventions, respectively. Logistic regression was used due to the dichotomous coding of the dual-intervention dependent variable (0=no, 1=yes). Because these results are only exploratory and no hypotheses have been stated, the p-value represents a two-tailed hypothesis test of statistical significance.[6]

Table 6: Logistic regression results for victims using both CJ and Personal interventions

Variable	Coef.	SE	OR
*Agestalk**	0.044	0.025	1.045
White	-0.720	0.495	0.487
*Income**	0.202	0.108	1.223
*GradHs**	1.369	0.750	3.933
AttendCollege	1.100	0.705	3.005
GradCollege	0.839	0.790	2.314
Serious Relationship	-0.455	0.463	0.634
*Violence during stalking****	1.371	0.467	3.938
Fearful	0.522	0.430	1.685

N=139[7]

* significant at the .10 level ** significant at the .05 level *** significant at the .01 level

Based on the above results, the most likely victims to use both criminal justice and personal interventions were those that were older, had higher incomes, graduated from high school, and who experienced violence at the hands of their stalker. Each additional year of age for victims increased the odds of using dual interventions against a stalker by 4.5%. More striking, those that experienced violence during their stalking increased the odds of using dual interventions by almost 300% (OR= 3.938).

[6] Multinomial regression was considered for this analysis, but since most women tried one intervention, this model predicts who is most likely to try several interventions, including obtaining outside help.

[7] Thirteen cases were dropped from the analysis due to missing data for the income measure.

Since the temporal relationship between stalking actions and interventions sought is not specified in this dataset, this finding is likely driven from a combination of two possible scenarios. The first is that victims experienced violence and subsequently used several different interventions, such as contacting police or seeking the help of family or friends. The second scenario is that stalkers may have acted violently against their victims in response to being contacted by the police, family members, court, etc. Without a clear ordering of circumstances in each case, it is simply not possible to tell which victims used multiple types of interventions proactively, and which may have acted reactively.

Graduating from high school was significantly related to using dual interventions. Compared to victims who did not graduate from high school (the reference group), victims that graduated were 293% more likely to use a combination of both criminal justice and personal interventions. Surprisingly, those that attended or graduated from college were not significantly more likely than non-high school graduates to use dual interventions, though the sign of the coefficients does suggest that educated victims were more likely to use dual interventions than their counterparts.

Overall, it appears that age, income, and education had a slight effect, while a violent stalking episode had a strong effect on the likelihood of victims using several different interventions. The lack of strong significant findings may indicate that few victim characteristics strongly influence the decision to use multiple interventions. Had the victim characteristics been more influential, then it would be more difficult to distinguish the effects of a particular intervention from the characteristics of the

victim that led her to use certain interventions. If victim characteristics are not strongly associated with using dual interventions, then the conclusion that interventions (not personal characteristics) influence duration more can be reached with greater confidence. These results address important, but only intermediary questions about the nature of stalking. Knowing which victims used both types of interventions does not give information on which of those interventions was related to a decrease in the amount of time they were stalked, which is the real question of interest. Now that a more accurate conceptualization of victims and their stalkers, common events in stalking cases, and the types of victims that utilize both types of interventions has been achieved, the next focus is on the continuous survival analysis and testing the three hypotheses.

Continuous Duration Analysis

Several descriptive accounts of the transformed Brewster data are presented. First, Kaplan-Meier estimates for the sample are given in Appendix I. The first column of this table shows the monthly intervals for duration. The second column represents the risk set, or the number of victims at risk for experiencing desistance of stalking, for each time period. The third and fourth columns list the number of victims that experienced desistance (failed) or were censored at each interval. Finally, the fifth column contains the survivor function without covariates present, which represents the conditional probability of surviving (still being stalked) beyond each time period given survival up to that time period. Next, a graphical representation of the Kaplan-Meier survival estimate is given, followed by the baseline cumulative hazard function. Tests of the proportional hazards assumption for the covariates are

included, followed by graphs for each intervention depicting the same PH test. Finally, the Cox proportional hazards model is presented and the hypotheses evaluated.

The graph in Figure 3 represents the estimated overall survival function for the sample. Duration, which is represented by analysis time, ranges from 0-456 months. The extreme right skew is due to the few outliers in the data. It appears that over approximately the first 60 months (5 years), only about 25% of stalking victims were not yet censored or failed, meaning they were still being stalked. Similarly, Figure 4 shows the baseline cumulative hazard function for the model, which represents the cumulative hazard for victims that are still at risk for stalking desistance (still being stalked), given they were not censored and did not experience desistance during the previous time intervals. Both the survival function and baseline cumulative hazard fall or rise rapidly over the first 100 months, then slowly begin to level off, which is a result of the few outliers at the extreme end of the dataset. As a result, it is likely that the conclusions drawn from this study will be more robust for victims that experienced shorter periods of stalking duration. The cases in which a victim was stalked for more than 10 years are so unique that the findings from this study should not be trusted for those rare individuals.

Figure 3: KM Survival Estimate for Brewster Sample

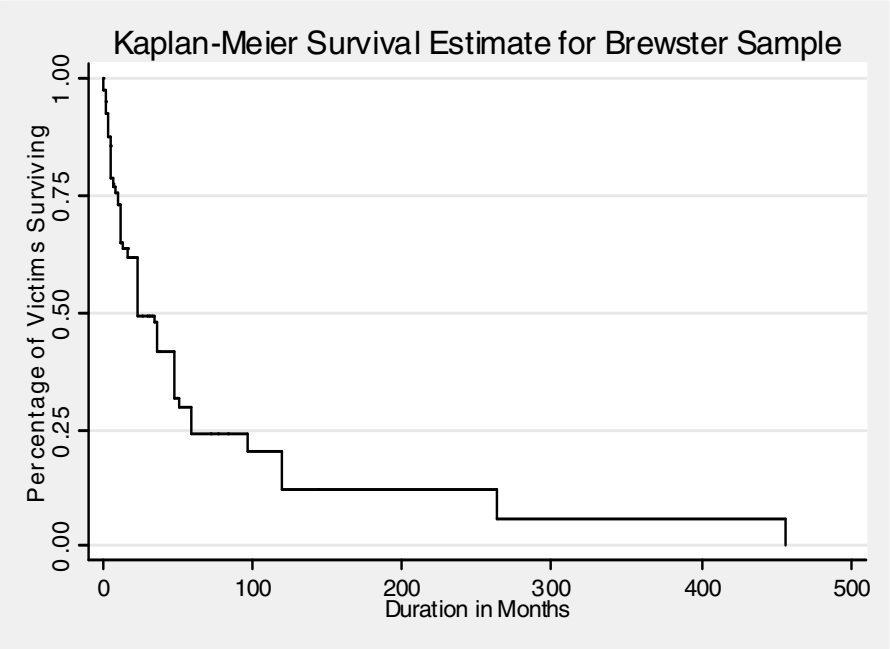
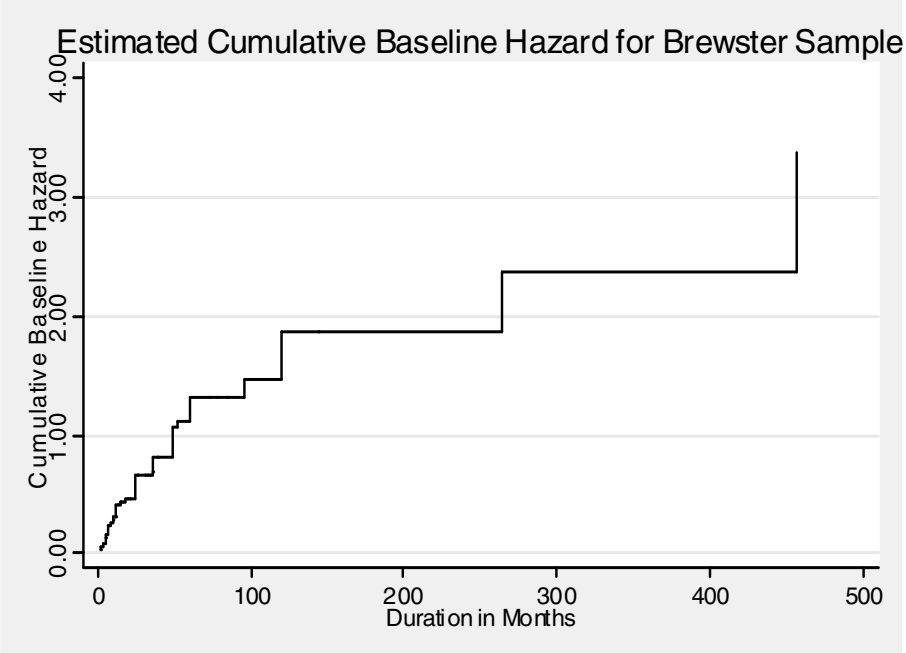


Figure 4: Estimated Cumulative Baseline Hazard for Brewster Sample



The main assumption in a Cox model is the proportional hazards (PH) assumption. This assumption states that when examining two observations with different values for each independent variable, the ratio of the hazard functions between the two does not depend on time. Table 7 represents the results of tests of the proportional hazards assumption for the model. Testing the PH assumption is a type of model specification test in which each covariate is examined separately to determine if the model is adequately parameterized (Cleves, Gould, and Gutierrez, 2004). Analysis time is interacted with each covariate, and if the proportional hazards assumption is met, these interactions essentially have no effect. The results of the tests indicate that each interaction variable added had no additional explanatory power in the model, suggesting that each covariate passes this particular test.

Table 7: PH test results for each covariate in Brewster Sample

Independent Variable	p	SE
Contacted Police	.487	.029
Stalker Arrested	.587	.011
Restraining Order	.160	.010
Changed Phone#	.734	.011
Moved	.760	.010
Threatened Stalker	.346	.010
Used Family	.334	.011

N=146

Figures 5 through 6 represent graphical tests of the same PH assumption. If the assumption is met, then the curves would be parallel, suggesting that the effects of each intervention do not change over time. Each of the seven interventions was tested, accounting for the presence of every other intervention in the test. The graphs for *Contacted Police*, *Stalker Arrested*, and *Threatened Stalker* all appeared roughly proportional. However, *Moved*, *Changed Phone#*, *Restraining Order*, and *Used*

Family all showed some overlap in lines, indicating the effects of the intervention may not be constant over time. Although the graphical tests for some variables appeared to violate the proportional hazards assumption, the results of the statistical tests indicate the model is correctly specified.

Figure 5: Test of PH for *Contacted Police*

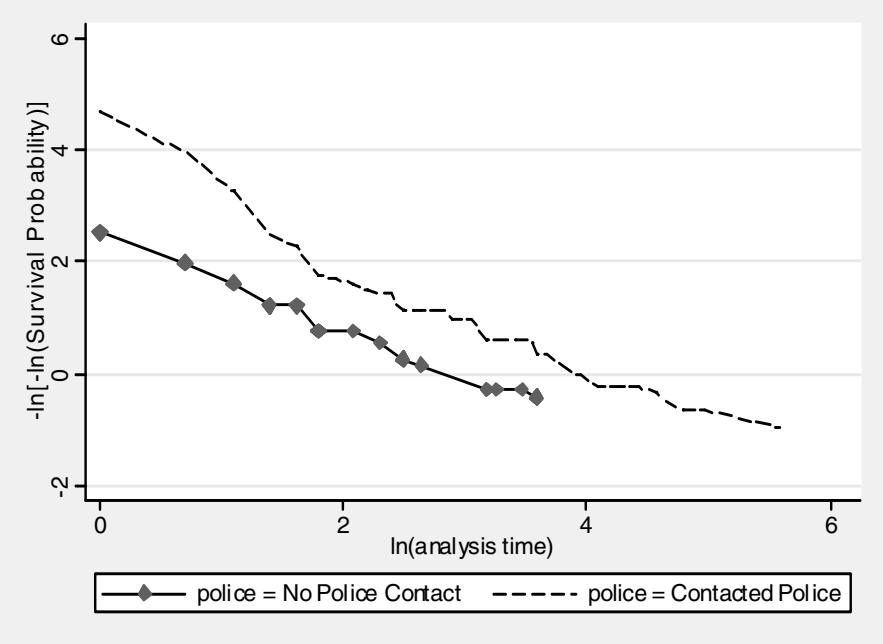


Figure 6: Test of PH for *Stalker Arrested*

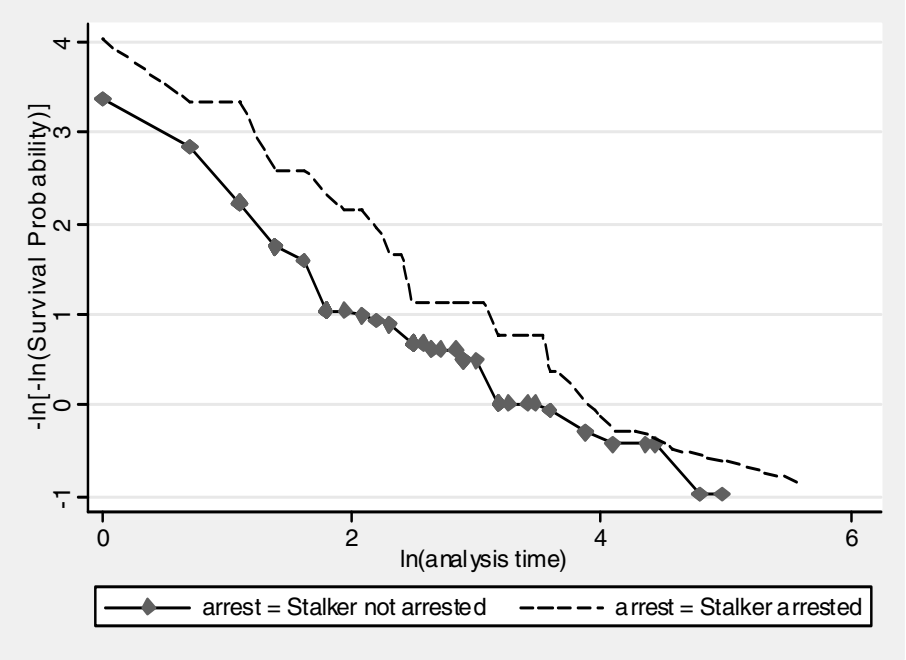


Figure 7: Test of PH for *Restraining Order*

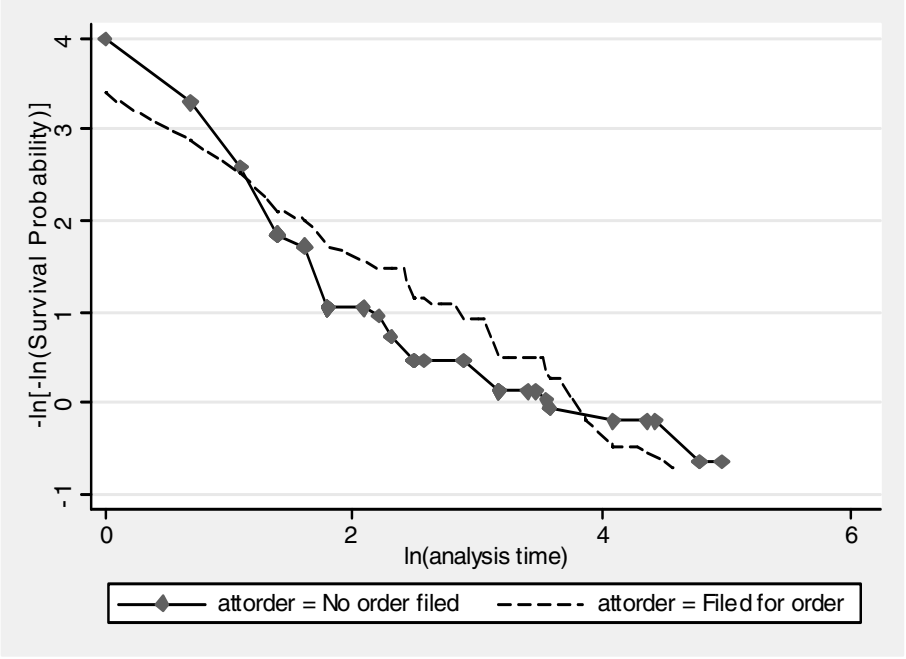


Figure 8: Test of PH for *Changed Phone#*

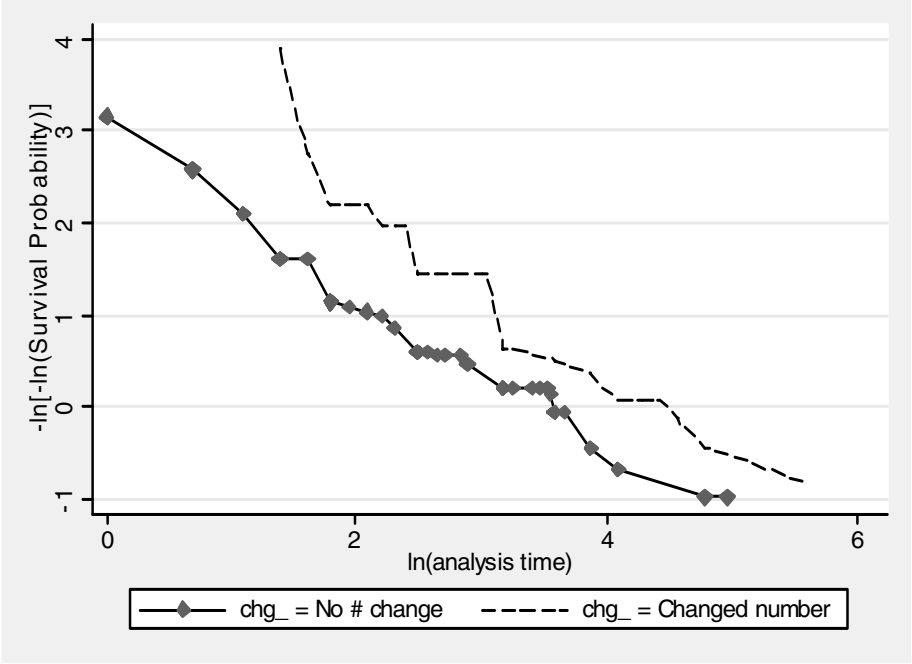


Figure 9: Test of PH for *Moved*

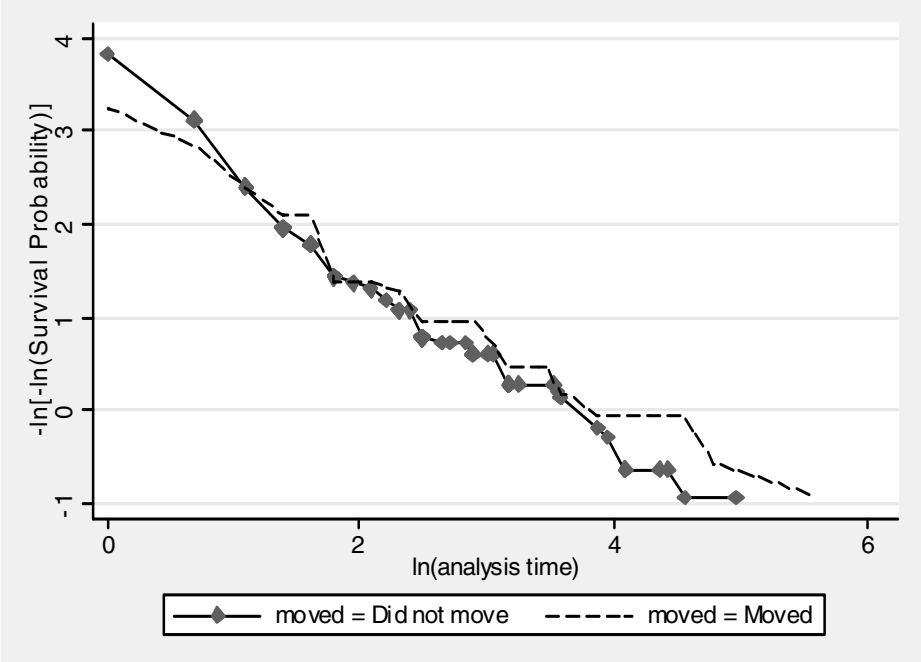


Figure 10: Test of PH for *Threatened Stalker*

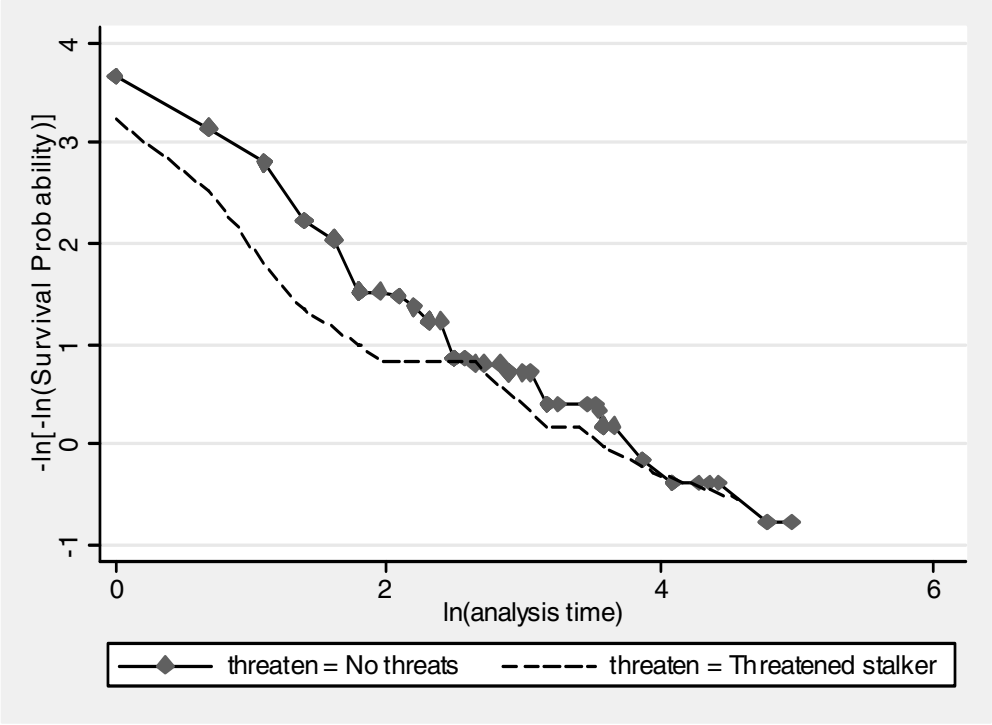


Figure 11: Test of PH for *Used Family*

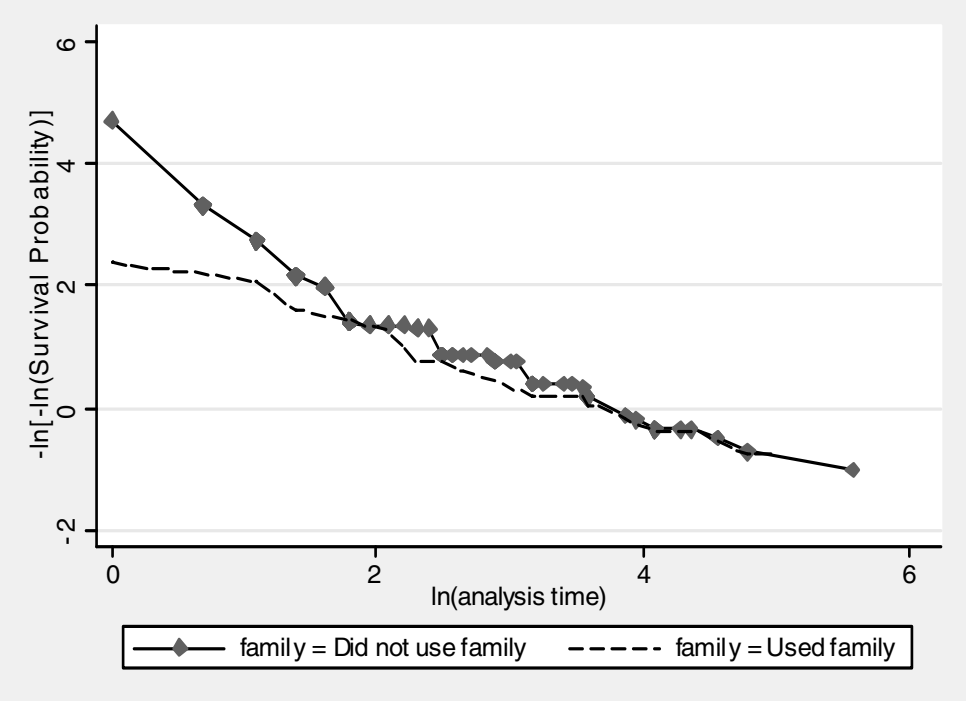


Table 8 contains hazard ratios and standard errors for the continuous duration model. Hazard ratios are merely exponentiated coefficient values and are included here instead of coefficients for interpretability. All p-values for interventions represent 1-tailed tests. Hazard ratios above 1 indicate that the factor is associated with an increase in the hazard of desistance, which also means it is associated with a decrease in the duration of stalking. Conversely, factors with hazard ratios below 1 are associated with *decreasing* a victim's hazard for desistance (which again, is not desirable), thus increasing the duration of stalking. Therefore, in attempting to determine which interventions or control variables have desired effects on putting an end to stalking behavior, positive coefficients indicate an association with shorter duration, and are thus preferred. When examining interventions that may help increase this hazard, serious attention should be paid to those variables that have significant, positive effects in the model (HR>1). Significant, negative effects (HR<1) indicate particular interventions or characteristics that are associated with longer stalking situations, which is also important information to address.

Table 8: Cox Proportional Hazards Model Results Predicting Shorter Stalking Duration in the Brewster Sample

Variable	Haz Ratio	SE	Effect on Duration
CJ Interventions			
Contacted Police	0.572	0.210	Null
Stalker Arrested	0.708	0.230	Null
Restraining Order	1.267	0.387	Null
Personal Interventions			
*Changed Phone#****	0.408	0.130	Longer Duration
Moved	0.869	0.241	Null
*Threatened Stalker***	1.773	0.598	Shorter Duration
Used Family	0.999	0.291	Null
Controls			
Agestalk	0.977	0.016	Null
White	1.035	0.335	Null
GradHs	0.750	0.365	Null
AttendCollege	0.478	0.219	Null
GradCollege	0.640	0.311	Null
Serious Relationship	0.796	0.224	Null
Violence during stalking	1.029	0.340	Null
Speedy Contact	0.949	0.299	Null
Fearful	1.090	0.300	Null

** significant at the .05 level *** significant at the .01 level

Criminal Justice Interventions

Although none of the criminal justice interventions are significant in the model, the variable for contacting the police approaches significance (p=0.13). Directionality of the coefficient indicates that contacting the police is associated with a decrease in the hazard of desistance, otherwise known as a lengthened stalking episode.

Personal Interventions

Unlike criminal justice interventions, two personal interventions had a significant effect on increasing or decreasing the hazard of desistance. Changing a phone number was associated with a significant decrease in the hazard of desistance

(p=.005). Threatening a stalker was associated with a significant increase in the hazard of desistance, while using family to discourage staking appeared to have almost no effect. Hypothesis 2 was not supported. In fact, the variable for moving was not even marginally significant (p=.61) and was also not in the expected direction.

Although the findings were mixed, changing a phone number and threatening the stalker were both significant in this model. Based upon these results, Hypothesis 1 is partially supported. While no criminal justice interventions significantly increased the hazard of desistance, one personal intervention did accomplish this, while another actually decreased the hazard of desistance, and thus was associated with longer stalking duration.

Control Variables

No control variables appear to have an effect on the hazard of desistance. It appears that only attending college had a small effect on the hazard rate of desistance, and that variable was associated with a decrease in the hazard rate (p=.108). The results for contacting the police quickly were not in the expected direction and indicate that Hypothesis 3 was not supported. Thus, we can infer that victims who immediately use criminal justice interventions did not increase or decrease their hazard of desistance by a significant amount.

Reliability Test

The final step in this analysis is to compare the results from the Brewster sample to those obtained from a comparable sub-sample of the NVAWS. Due to the potential influence of outliers, discrete duration models for both samples were run

two different ways. First, the models were run with the original calculated yearly intervals. The alternate method was to collapse all victims who reported being stalked more than 10 years into a 10+ category. This added three cases from the Brewster sample and seven cases from the NVAWS sample into the 10+ years category. There were almost no differences in outcomes or significance levels, therefore the results of the collapsed models are reported due to the fewer number of time periods necessary for the analysis.

Lifetables for the discrete models in both samples are present in Appendix II. The lifetable is used for interval or grouped data and represents the survivor function for each time period. Provided next is a comparison of the Brewster and NVAWS samples for several measures, such as demographic and stalking characteristics. Finally, the results of the discrete duration analysis for both samples are reported and are compared to those from the continuous analysis.

Comparison between the samples

Table 9 presents a description of the Brewster data compared to the NVAWS data. Only NVAWS data from females who were stalked by a prior intimate partner (spouse or ex-spouse, live-in partner, boyfriend or date) were analyzed. Independent sample T-tests were conducted to determine which variables significantly differed between the samples. It should be noted that the relationship between the two measures of duration is not significantly different. Also, 43% of the Brewster sample and 47% of the NVAWS sample contained values of zero for duration because those victims reported being stalked for less than one year.

There are significant differences between the samples for several other variables. Victims in the Brewster sample are significantly older than victims from the NVAWS sample. Only 74% of victims in the Brewster sample are white, compared to 81% in the NVAWS sample. Both samples have a mean value for education that suggests victims were likely to attend school past high school, although those in the Brewster sample were significantly more likely to do so. Victims in both samples were equally likely to be threatened by their stalker and attend counseling, but NVAWS victims were significantly *less* likely to contact the police regarding their stalker. The average duration of stalking was 1.96 years for NVAWS prior-intimate victims, and 1.94 years for the Brewster sample. Due to the voluntary nature of the Brewster sample and the high likelihood of reports to the police, it is possible that the cases in the main analysis are more serious, or perceived to be more serious that those captured in the national survey. This does have implications for the results, and will be discussed further.

Table 9: Comparison of Brewster and NVAWS Samples

	Brewster (1998) N=146		**NVAWS (1998) N=337**	
	Mean	SD	Mean	SD
Victim Age***	30.83	(8.3)	25.93	(8.4)
Victim White**	0.71	(.45)	0.82	(.38)
Victim Education**	2.89	(.98)	2.71	(.90)
Victim Threatened by Stalker	0.56	(.50)	0.62	(.49)
Victim Attended Counseling	0.38	(.49)	0.44	(.50)
Victim Contacted Police***	0.73	(.44)	0.55	(.50)
Victim had Restraining Order***	0.62	(.49)	0.34	(.47)
Duration of Stalking	1.94 years	(4.08)	1.96 years	(3.16)

** significant at the .05 level *** significant at the .01 level

Discrete Duration Analysis

Table 10 contains the results of the discrete duration analysis for both the Brewster and NVAWS sample. As mentioned previously, these results were obtained using logistic regression and contain variables for each time period of duration, which ranges from 1-10 years in both samples. Odds ratios are included to facilitate interpretation. As in the continuous analysis, hazard odds ratios greater than 1 indicate an increased hazard of desistance, which relates to shorter duration for stalking and is the desired outcome. T-tests for differences between the two samples for each coefficient were also conducted to determine if any variables differed significantly between the models (Paternoster, et al., 1998).

Similar to the results in the continuous duration analysis, no criminal justice interventions have a significant association with shorter or longer hazards of desistance. The results for police significantly differed between the two samples, which is also indicated by the opposite directionality in the odds ratios. Directionality for the personal interventions significantly differs between the two samples as well for the coefficient for moving. While changing a phone number is associated with significantly decreasing the hazard of desistance in the Brewster sample, it has no significant effects in the NVAWS model. However, moving was not significant in the Brewster model, but is significantly related to an increase in the hazard of desistance (shorter duration) in the NVAWS model, which supports Hypothesis 2. Similarly, threatening a stalker was significantly related to an increase in the hazard of desistance in the discrete Brewster model, but has an opposite, non-significant effect

in the NVAWS model. Finally, utilizing the help of friends and family has shown a considerable lack of findings in both the continuous and discrete duration models.

Table 10: Discrete Time Logistic Model Results Predicting Shorter Duration

	Brewster		***NVAWS***	
Variable	Haz Odds Ratio	Effect on Duration	Haz Odds Ratio	Effect on Duration
CJ Interventions				
Contacted Police[a]	0.514	Null	1.350	Null
Stalker Arrested	0.837	Null	0.801	Null
Restraining Order	1.182	Null	0.886	Null
Personal Interventions				
Changed Phone#	0.383***	Longer Duration	0.731	Null
Moved[a]	0.705	Null	1.412*	Shorter Duration
Threatened Stalker	1.806*	Shorter Duration	0.823	Null
Used Family	0.883	Null	1.038	Null
Controls				
Agestalk[a]	0.959**	Longer Duration	1.018*	Shorter Duration
White	0.929	Null	0.938	Null
GradHs[a]	0.560	Null	1.922*	Shorter Duration
Attendcollege[a]	0.312**	Longer Duration	1.523	Null
GradCollege	0.578	Null	1.039	Null
Serious Relationship	0.811	Null	0.534*	Longer Duration
Violence during stalking[8]	1.174	Null		
Speedy Contact	0.743	Null	0.779	Null
Fearful	1.205	Null	0.964	Null

[a] Coefficients are significantly different between the 2 samples (p<.10)
* significant at the .10 level ** significant at the .05 level *** significant at the .01 level

Coefficients for the Brewster continuous and discrete models were almost identical, with the exception of age and attending college. This result was expected, due to the same dataset being used and only the coding of the dependent variable being changed. No control variables appeared significant in the Brewster continuous model, however there were several significant findings in the discrete analysis. Age at the time of stalking was significantly different between the two samples. In the

[8] Although there is no measure of violence in the NVAWS sample, excluding it from the Brewster sample does not change the directionality or significance of the results.

Brewster sample an increase in age was significantly associated with a decrease in the hazard of desistance, while the opposite was found in the NVAWS model. Similar findings are also present with the education variables. Compared to those that did not graduate from high school, those in the Brewster sample who attended college again had a decreased hazard of desistance (longer duration), while those who graduated from high school in the NVAWS sample experienced a significant increase in the hazard (shorter duration). These values also significantly differed between the models. Finally, the presence of a serious relationship in the NVAWS sample was significantly associated with a decreased hazard of desistance, while it showed no effect in the Brewster model.

It appears that the results obtained using the Brewster sample were not replicated in the NVAWS sample. Overall, there were a few similarities and several differences between the two analyses. Changing a phone number was significantly related to longer duration in the Brewster sample, but showed no significant findings for the NVAWS sample. Moving showed only marginally significant findings for the NVAWS sample, although the coefficient was in the hypothesized direction. Threatening a stalker was associated with an increased hazard of desistance in the Brewster sample, but was not significant in either direction for the NVAWS sample. Although personal interventions had highly inconsistent results in the discrete models it should be noted that as in the continuous analysis, no criminal justice interventions had significant associations with an increase or decrease in the hazard of desistance for either sample. Although several control variables significantly differed between the samples, only 2 interventions did so. Contacting the police and moving showed

significantly different findings between the two analyses, further illustrating the position that policy recommendations should be made with caution.

Chapter 5: Discussion and Conclusion

The results for the original Brewster sample are characterized by a surprising lack of findings. Only 3 interventions in the entire model were significant. However, one of them had significantly different effects on the length of stalking duration between the two samples. Changing a phone number is significantly associated with an increase in the length of stalking, while threatening a stalker is significantly associated with decreasing it. At face value, this would suggest that victims should avoid changing their phone numbers because that is likely to encourage stalkers to persist. However, this finding could be an artifact of the data. Since the timing of the intervention is unknown, it may be that victims only resort to a costly intervention after some unknown period of time. It is plausible that threatening to inform the police, a stalker's family, or his work could have a deterrent effect on stalking. However, such a proactive strategy needs further evaluation before it is recommended to victims. Certain types of stalkers may be deterred by threats, while others may react with anger or violence.

Hypothesis 1 was partially supported because although no criminal justice interventions were significantly related to a decrease in duration, a single personal intervention was. However, a different personal intervention was related to increased duration. Hypothesis 2 was not supported. The effect for moving was in the opposite direction as expected (it was associated with increased duration), and was not significant. Temporal ordering may have affected these findings. Just as changing a phone number could be an intervention only utilized after a lengthened period of being stalked, moving is an even greater inconvenience and may have been a last

resort for some victims. If a victim was stalked for 60 months and moved as a result, moving may appear to increase duration because it is not known whether it occurred early or late in the stalking episode. Hypothesis 3 addressed this temporal order problem by introducing a measure of how quickly the police were contacted after the stalking began (*Speedy Contact*). Unlike the other interventions, the definition of this variable stipulates that it happened immediately after the stalking began. Hypothesis 3 was not supported due to non-significant results. Because we do know the temporal order for this variable, we can conclude that for this sample, contacting the police immediately after the stalking began was not associated with a significant increase or decrease in stalking duration.

The results of the reliability check do not support the primary analysis. There is agreement in that no criminal justice interventions are significantly associated with increased or decreased stalking duration. However, the results for the effectiveness of personal interventions seem quite inconsistent. The Brewster results mirror those in the continuous analysis, with changing a phone number associated with increased duration and threatening a stalker associated with decreased duration. The other significant finding in the discrete analysis is for moving in the NVAWS sample, which marginally supports Hypothesis 2. Both models show the same negative, non-significant findings for contacting the police quickly, further supporting the conclusion that immediately doing so does not guarantee shorter stalking duration.

After testing three hypotheses in three separate models, it appears that Hypothesis 1 is only partially supported, Hypothesis 2 was not supported in the Brewster sample, but was supported in the NVAWS sample, and Hypothesis 3 was

not supported in any analysis. The main conclusion drawn from these mixed results is that more research is needed to determine which interventions have a significant effect on duration.

Limitations

The primary sample used in this study was non-random, voluntary, and restricted to a very particular geographical area (Southeastern Pennsylvania). As mentioned before, no corroborating evidence was required from reporting victims, therefore there is a possibility the dataset contains a small proportion of false reports. To address some of these limitations the NVAWS sub-sample was introduced, providing a much less restricted national random sample of stalking victims.

Unfortunately, it is very clear after comparing the results between the Brewster sample and the NVAWS sample that the findings are not generalizable to a broader population of stalking victims. Although the expectation was not a perfect replication of the results found in the Brewster sample, the NVAWS results were more divergent than expected. This could largely be due to some of the differences between the two samples that were highlighted in Table 9.

While the lengths of the stalking episodes were not significantly different, important victim and stalking characteristics did vary between the two groups. It is possible that because the voluntary Brewster victims were significantly more likely to contact the police and obtain a restraining order against their stalker, those differences along with other unmeasured differences made the two groups fairly unequal. If the Brewster sample contained a more aggressive group than the "average" stalking victims of the NVAWS, the effectiveness of interventions could differ as well. For

example, since Brewster victims volunteered to discuss their stalking experiences and were more likely to call the police, if they threatened their stalkers they could have been taken more seriously than victims from the NVAWS. Due to differences between the samples, the conclusions of the continuous duration analysis can therefore not be generalized to a population beyond those victims surveyed in Pennsylvania during the early 1990's.

Perhaps the greatest limitation of this entire study is temporal ambiguity. All information gathered from victims was retrospective, and the time period in which reported events took place was not specified in either sample. For example, it is documented that a victim obtained a protective order, but it is unknown if she did so a week after the stalking began or three years later. Therefore, conclusions cannot be drawn about causes of increased or decreased duration; only associations could be determined. While this severely limits the implications of this research, demonstrating associations is nonetheless a worthwhile cause and valuable step in furthering what we know about stalking situations and giving recommendations to victims beyond just those that are commonsense.

Policy Implications

No direct policy implications can be endorsed as a result of this research. Unfortunately for victims, recommendations about what actions to take while being stalked can vary widely among departments, as can the level of seriousness in which stalking cases are treated. For example, as of October 2005, in the State of Maryland stalking is always treated as a misdemeanor, regardless of the number of offenses (NCVC, 2005). While stalkers could be charged with other more serious crimes,

failing to declare the crime a felony sends a clear message about perceived seriousness or priority.

Some police departments have more innovative and progressive programs. For example, the Alexandria, Virginia Police Department has a unit that specializes in the investigation of domestic violence and stalking crimes and includes a social worker that specifically deals with victim issues on a daily basis. The Threat Management Unit (TMU) of the Los Angeles Police Department focuses on high profile stalking cases, as well as pre-stalking situations and workplace violence (Boles, 2001). While these departments could serve as models to others, unfortunately they are not the norm for law enforcement agencies. What the current research most suggests is the need for further investigation that includes a careful consideration and evaluation of law enforcement policies and recommendations for stalking situations.

Recommendations for Future Research

Stalking researchers should focus heavily on the development of new sampling and measurement strategies in order to test their hypotheses. Perhaps the most beneficial change would be a longitudinal survey chronicling the experiences of victims while the stalking is taking place. Fortunately, in 2004 the Office on Violence Against Women division of the Department of Justice began work to develop such a survey. The Supplemental Victimization Survey will add a stalking component to the government-issued National Crime Victimization Survey. The survey will ask victims about incidents that took place during the stalking, measures they took, financial costs, criminal justice system response, etc. Data collection is slated to take place January through June 2006, with results reported in early 2007. This survey is a much

needed update to the current information available to researchers about stalking. The "Stalking Fact Sheet" distributed by the Stalking Resource Center still includes prevalence estimates from the 1998 NVAWS (Department of Justice, 2006).

One area of future research that is of particular interest is the role of social networks in protecting victims and assisting in the reduction of stalking duration. While this study contained a single intervention involving family or friends, it did not demonstrate an associated increase or decrease in duration, thus showing a need for the effectiveness of social support to be further explored. The duration of stalking may be determined by more than just the actions or reactions of only a victim or a stalker. More information should be gathered on the involvement of social networks on both the victim's and the offender's side.

Conclusion

Although the findings were mixed between the two samples and two analytic methods, the importance of this research cannot be overstated. The focus on interventions in stalking research has been minimal, and the discussion of the concept of duration has been almost non-existent. Although this research was undoubtedly affected by data limitations, it would be a disservice to stalking victims to abandon similar projects based solely upon that reason. It is also important for researchers to understand the limitations of their data, as well as use caution when discussing policy implications based upon non-random samples. Stalking is a serious crime that is beginning to get serious attention in the media, the courts, and by law enforcement. Research using representative samples and that is focused on reducing duration may

someday be rewarded by influencing policies that will help victims shorten or ultimately prevent stalking victimization.

Appendix I

Kaplan Meier Estimates for continuous Brewster sample

Beg Time	Net Total	Fail	Lost	Survivor Fcn	SE	95% CI	
1	146	4	1	0.9726	0.0135	0.9287	0.9896
2	141	3	1	0.9519	0.0177	0.9018	0.9768
3	137	7	4	0.9241	0.0220	0.8672	0.9572
4	129	7	3	0.8740	0.0278	0.8074	0.9187
5	119	3	2	0.8593	0.0292	0.7903	0.9069
6	115	10	5	0.7846	0.0349	0.7063	0.8442
7	100	1	1	0.7767	0.0355	0.6976	0.8375
8	98	1	3	0.7688	0.0360	0.6889	0.8307
9	94	2	1	0.7524	0.0370	0.6708	0.8166
10	91	3	2	0.7276	0.0385	0.6537	0.7949
11	86	0	1	0.7276	0.0385	0.6537	0.7949
12	85	11	10	0.6506	0.0421	0.5613	0.7261
13	66	0	2	0.6506	0.0421	0.5613	0.7261
14	64	1	1	0.6404	0.0427	0.5503	0.7172
15	62	0	1	0.6404	0.0427	0.5503	0.7172
17	61	0	1	0.6404	0.0427	0.5503	0.7172
18	60	2	2	0.6191	0.0438	0.5271	0.6983
20	56	0	1	0.6191	0.0438	0.5271	0.6983
21	55	0	1	0.6191	0.0438	0.5271	0.6983
24	54	12	6	0.4930	0.0487	0.3946	0.5839
26	37	0	1	0.4930	0.0487	0.3946	0.5839
30	36	0	1	0.4930	0.0487	0.3946	0.5839
32	35	0	1	0.4930	0.0487	0.3946	0.5839
34	34	0	1	0.4930	0.0487	0.3946	0.5839
35	33	1	0	0.4780	0.0494	0.3786	0.5707
36	32	5	6	0.4183	0.0515	0.3167	0.5164
39	22	0	1	0.4183	0.0515	0.3167	0.5164
48	21	5	0	0.3187	0.0552	0.2146	0.4276
52	16	1	0	0.2988	0.0553	0.1958	0.4086
60	15	3	2	0.2390	0.0539	0.1424	0.3496
72	10	1	1	0.2390	0.0539	0.1424	0.3496
78	9	0	1	0.2390	0.0539	0.1424	0.3496
84	8	1	1	0.2390	0.0539	0.1424	0.3496
96	7	1	1	0.2049	0.0560	0.1083	0.3228
120	5	3	0	0.1229	0.0561	0.0403	0.2545
144	3	0	1	0.1229	0.0561	0.0403	0.2545
264	2	1	0	0.0615	0.0517	0.0065	0.2135
456	1	1	0	0.0000			

Appendix II

Lifetable for Discrete duration analysis in Brewster sample

Interval		Beginning Total	Deaths	Lost	Survival	SE	95% CI	
0	1	303	37	25	0.8726	0.0196	0.8285	0.9060
1	2	241	12	18	0.8275	0.0225	0.7782	0.8668
2	3	211	12	32	0.7766	0.0254	0.7218	0.8219
3	4	167	4	29	0.7562	0.0267	0.6990	0.8041
4	5	134	6	18	0.7199	0.0293	0.6578	0.7727
5	6	110	3	22	0.6981	0.0310	0.6327	0.7542
6	7	85	0	12	0.6981	0.0310	0.6327	0.7542
7	8	73	0	7	0.6981	0.0310	0.6327	0.7542
8	9	66	1	15	0.6862	0.0327	0.6172	0.7453
10	11	50	4	46	0.5845	0.0545	0.4701	0.6825

Lifetable for Discrete duration analysis in NVAWS sample

Interval		Beginning Total	Deaths	Lost	Survival	SE	95% CI	
0	1	778	151	8	0.8049	0.0142	0.7752	0.8311
1	2	619	53	5	0.7357	0.0159	0.7031	0.7654
2	3	561	26	34	0.7005	0.0165	0.6668	0.7316
3	4	501	26	58	0.6620	0.0173	0.6269	0.6946
4	5	417	14	42	0.6386	0.0178	0.6026	0.6722
5	6	361	10	40	0.6198	0.0182	0.5831	0.6544
6	7	311	9	51	0.6003	0.0188	0.5625	0.6360
7	8	251	4	24	0.5902	0.0191	0.5518	0.6266
8	9	223	6	42	0.5727	0.0198	0.5328	0.6105
9	10	175	5	40	0.5542	0.0208	0.5124	0.5940
10	11	130	12	118	0.4606	0.0301	0.4006	0.5183

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